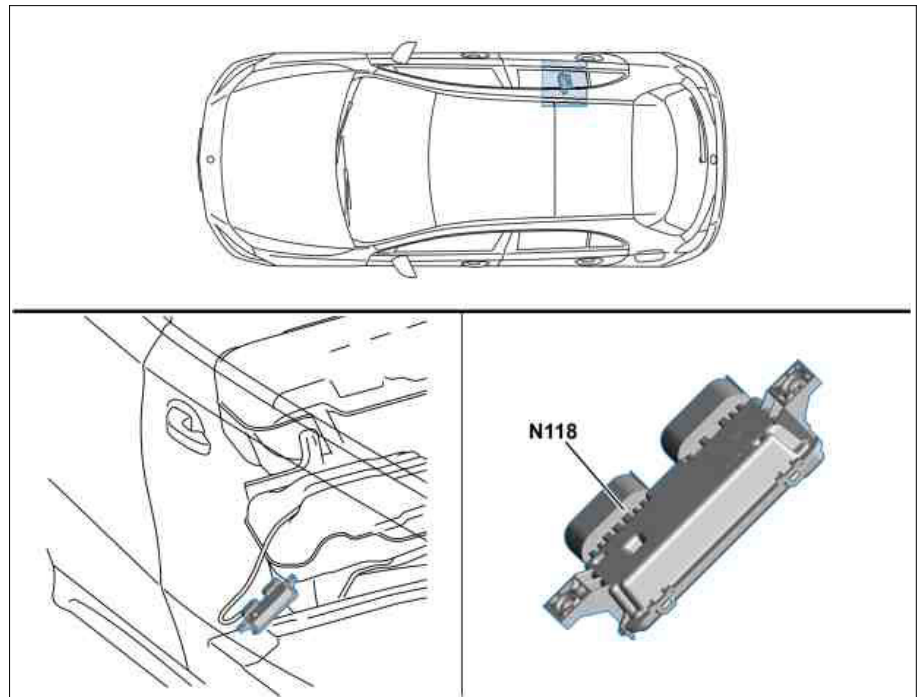


Engine all (CAR)

N118 Fuel pump control unit



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Overview

This document contains the following information:

- **General**
- **Location**
- **Function**

General

The fuel system control unit regulates the fuel pump according to need and transmits information about the current fuel pressure to the combustion engine control unit. Information on the fill level is shared with the instrument cluster.

The fuel system control unit processes this information and implements the following functions:

- Controlling the fuel pump
- Fuel system control unit limp-home mode
- Fill level evaluation of fuel tank
- Tank drainage service

Location

The fuel system control unit is located on the right under the rear bench seat.

Function

Controlling the fuel pump

Switching on of the fuel pump takes place if the signal "fuel pump ON" is received by the fuel system control unit.

The fuel system control unit also receives the signal "fuel specified pressure" from the combustion engine control unit.

The fuel system control unit detects the current fuel pressure by means of a voltage signal from the fuel pressure sensor and transmits this information to the combustion engine control unit.

To regulate the fuel pump, the fuel system control unit performs the following tasks:

- Evaluation of the current fuel pressure

- Checking of the fuel pressure against the fuel specified pressure
 - Actuation of the fuel pump by means of a pulse width modulated signal, so that the actual value corresponds to the specified value
- In this way, fuel delivery is variably regulated depending on fuel requirements.

Fuel system control unit limp-home mode

- If the "fuel pump ON" ground signal is missing or is implausible, the fuel pump is switched off.
- If the "specified fuel pressure" signal is missing or is implausible, the fuel pump is switched off.
- If the "circuit 15" signal fails or is implausible, the fuel system control unit, and therefore also the fuel pump, is switched off.
- Various limp-home functions ensure that the fuel supply is also assured in the event that the internal control system fails (e.g. failure of the processor).

Fill level evaluation of fuel tank

The fuel system control unit reads in values from the fuel tank fuel level indicator fill level sensors on the left and right to compute and evaluate the fill level of the fuel tank.

The following information is calculated from the measured electrical resistance of the fill level sensor and sent to the combustion engine control unit with a corresponding signal:

- Nominal volume of the fuel tank
- The current fill level in percent
- The reserve quantity in the fuel tank

The fill level is made available to the instrument cluster.

The signals from the fill level sensors are also checked for plausibility. In the event of implausible measurement values, a fault message is sent to the combustion engine control unit.

Tank drainage service

The fuel tank can be drained without the engine running via XENTRY Diagnostics.

Variants

For adaptation to different vehicle, engine, fuel tank variants and fuel pumps, different parameter sets are stored in the FSCU. For in-service date and exchange of the FSCU the respective parameters must be selected over the variant coding.