

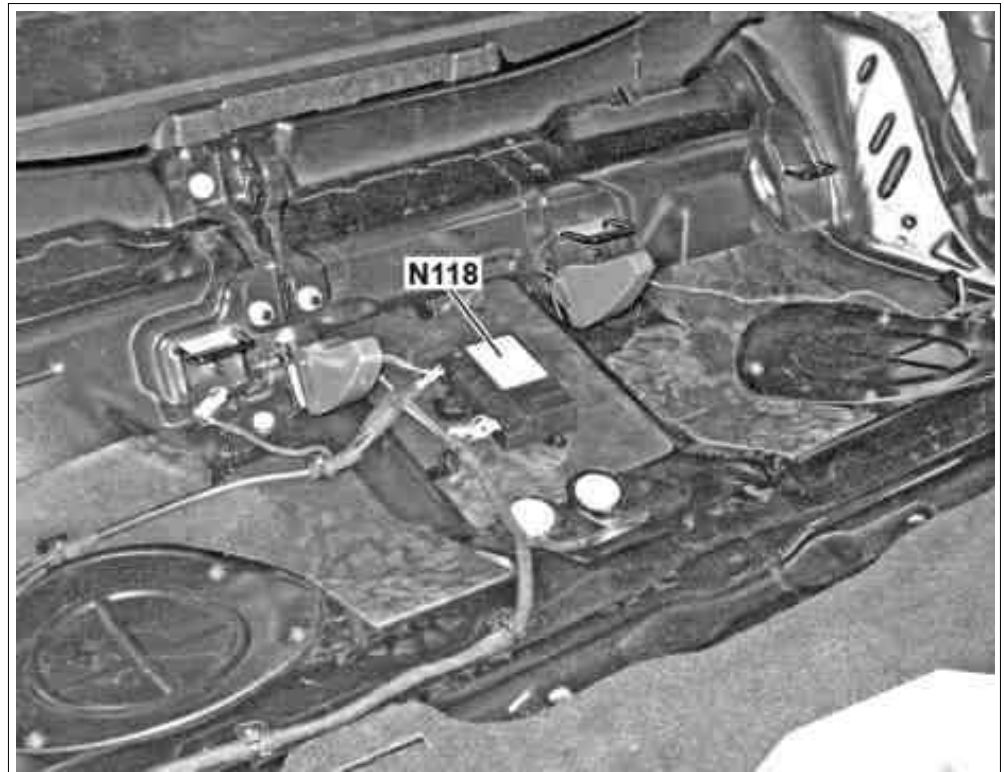
Document title Component description for fuel pump control unit

Document number gf4740p2001mm

ENGINE	276.8 in MODEL 207, 212 as of model year 2014
ENGINE	276.8 in MODEL 218 as of model year 2015
ENGINE	276.9 in MODEL 204, 207, 212 (except 212.095), 218
ENGINE	278.9 in MODEL 207, 212, 218

View of the rear compartment without rear bench seat (for model 207)

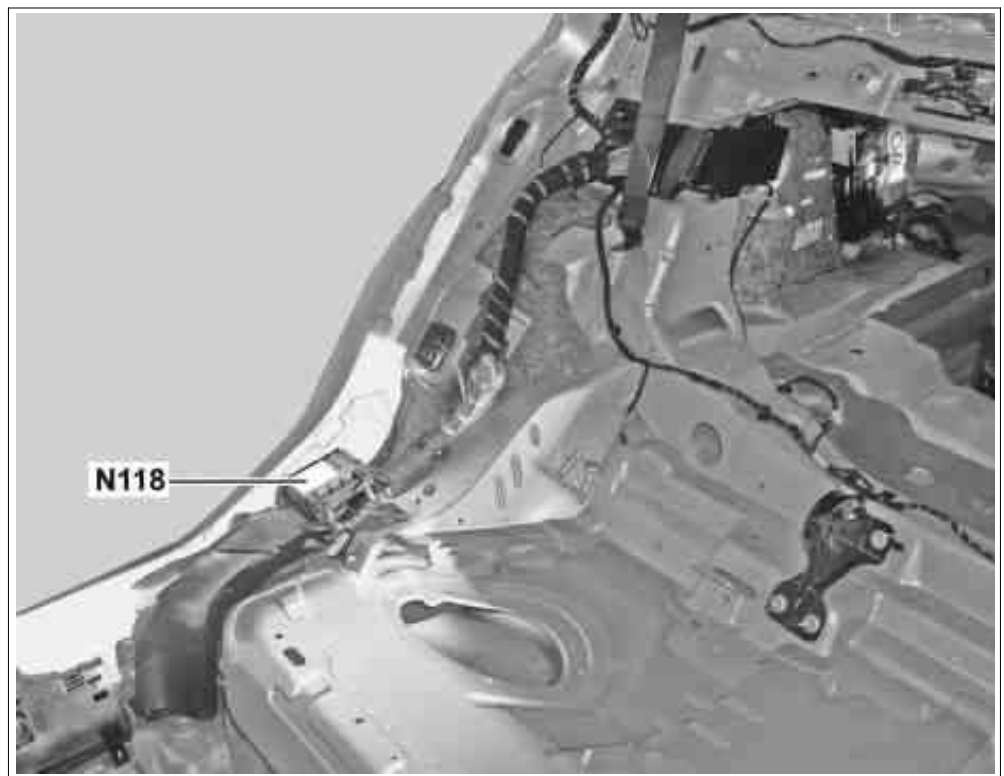
N118 Fuel system control unit



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View of right rear compartment door sill (for model 218)

N118 Fuel system control unit



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Location

On model 204.0/2/9, model 212 and model 218, the fuel system control unit is located below the paneling on the right rear door sill. For model 204.3 and model 207 the FSCU is located in the middle under the rear bench seat.

Task

The FSCU carries the internal designation FSCM-EC (Fuel System C control Module for Electronically Commutated fuel pumps).

The FSCU controls the fuel pump according to need (M3) and transmits information about the current fuel pressure to the ME-SFI [ME] control unit (N3/10).

Input and output signals

The following input signals are evaluated by the FSCU and the respective output signal is issued:

- **Direct input signals**
- **Direct output signals**
- **CAN input signals**
- **CAN output signals**

Direct input signals

- Terminal 15
- Terminal 30

Body

The fuel system control unit consists of a fuel housing with two plug connections and internal measuring and control electronics.

Function

The function is described in the following points:

- **Controlling the fuel pump**
- **Fuel system control unit limp-home mode**
- **Diagnosis**
- **Tank drainage service**

Controlling the fuel pump

Switching on of the fuel pump takes place if a "fuel pump ON" signal is received by the FSCU. This signal is sent redundantly by the ME-SFI [ME] control unit as a CAN signal via the drive train CAN (CAN C) and directly as a ground signal.

The fuel system control unit also receives the CAN signal "nominal pressure of the fuel" from the ME-SFI [ME] control unit via the drive train CAN.

The fuel system control unit detects the current fuel pressure based on a voltage signal from the fuel pressure sensor (model 204, model 207, 212), fuel pressure sensor (model 218) and transmits this information via the drive train CAN to the ME-SFI [ME] control unit.

- Circuit 31
- "Fuel pump ON" ground signal
- Fuel pressure sensor signal (B4/7) (model 204, model 207, model 212), fuel pressure sensor (B4/7) (model 218)
- Fuel quality sensor signal (B4/31) (for code 494 (USA version) and code 929 (Engine for ethanol fuel))

Direct output signals

- Fuel pressure sensor power supply (model 204, model 207, model 212), fuel pressure sensor (model 218) (5 V)
- Fuel pressure sensor ground connection (model 204, model 207, model 212), fuel pressure sensor (model 218)
- AC voltage signal for fuel pump (Phase U)
- AC voltage signal for fuel pump (Phase V)
- AC voltage signal for fuel pump (Phase W)

CAN input signals

- Fuel pump ON
- Fuel specified pressure

CAN output signals

- Fuel pressure
- Diagnostic data

The fuel system control unit evaluates the current fuel pressure, compares it with the fuel specified pressure and actuates the fuel pump appropriately by means of these phase-offset AC voltage signals in such a way that the actual value of the fuel pressure corresponds to the specified value.

The fuel pump pressure is regulated dependent on the fuel temperature and the engine rpm between about 4.0 and a maximum of 6.7 bar.

Fuel system control unit limp-home mode

- If the signal "specified pressure of the fuel" is missing a substitute value is created and the fuel pump is appropriately actuated by the fuel system control unit.
- If the signal from the fuel pressure sensor (model 204, 207, 212) is missing, the fuel pressure sensor (model 218) the fuel pump is actuated over a consumption-dependent limp-home mode characteristic.
- If the "fuel specified pressure" is missing and the signal from fuel pressure sensor (model 204, 207, 212), the fuel pressure sensor (model 218), the fuel pump is actuated an established replacement voltage.

Diagnosis

The FSCU performs an own and component check. Recognized errors are stored by the fuel system control unit and sent via the powertrain CAN to the ME-SFI control unit and also made available to an attached XD device via the diagnostic CAN (CAN D).

Tank drainage service

The fuel tank can be emptied over the FSCU without the engine running.

To do this, the container draining function is selected using Xentry Diagnostics, and the following parameters are entered:

- Parameter 01 for "fuel pump ON"
- Time "0-99999" seconds
- Fuel specified pressure 5.5 bar

During draining, Xentry Diagnostics must remain connected and the ignition must remain switched on.

Variants

The vehicle and engine variants are already stored in the FSCU. After replacement of the FSCU a variant coding must be carried out.

	Wiring diagram for FSCU	N118, model 204 N118, model 207 N118, model 212 N118, model 218	PE47.40-P-2101-97FAC PE47.40-P-2101-97EAC PE47.40-P-2101-97DAD PE47.40-P-2101-97XAB
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