Cutoff relay, electric fan

The engine control system activates the electric fan. The power supply from terminal 30 is connected by the engine control system via the cutoff relay of the electric fan.

Note!

Depending on the equipment specification of the electric fan, one of the following cutoff relays are installed:

- Cutoff relay of electric fan for electric fans up to 600 watt power
- Cutoff relay of electric fan for electric fans above 800 watt power

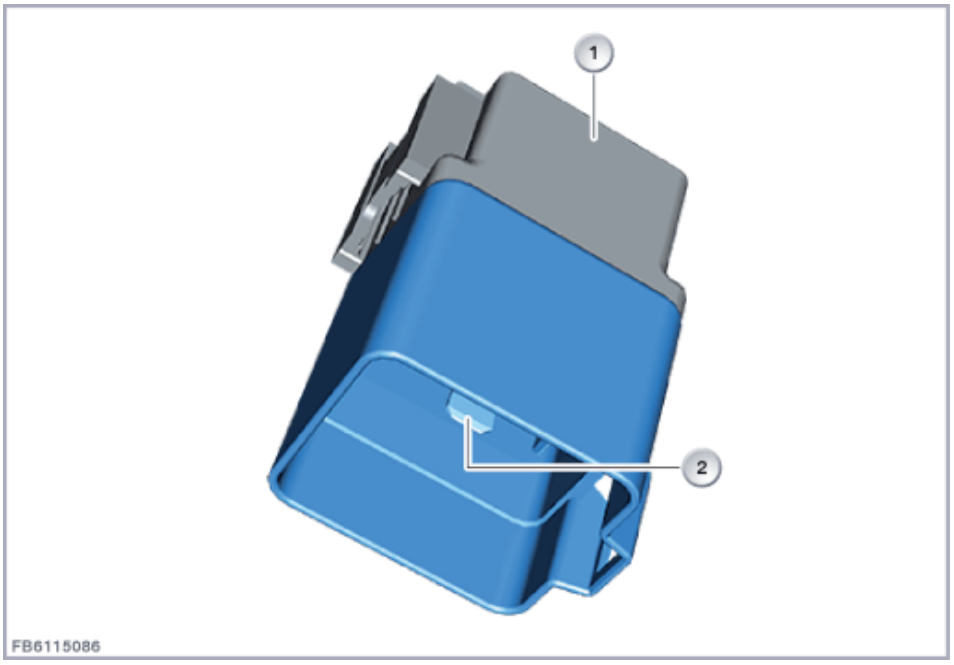
Note!

Observe the installation location for the cutoff relay of the electric fan via the hotspot on the wiring diagram!

Functional description

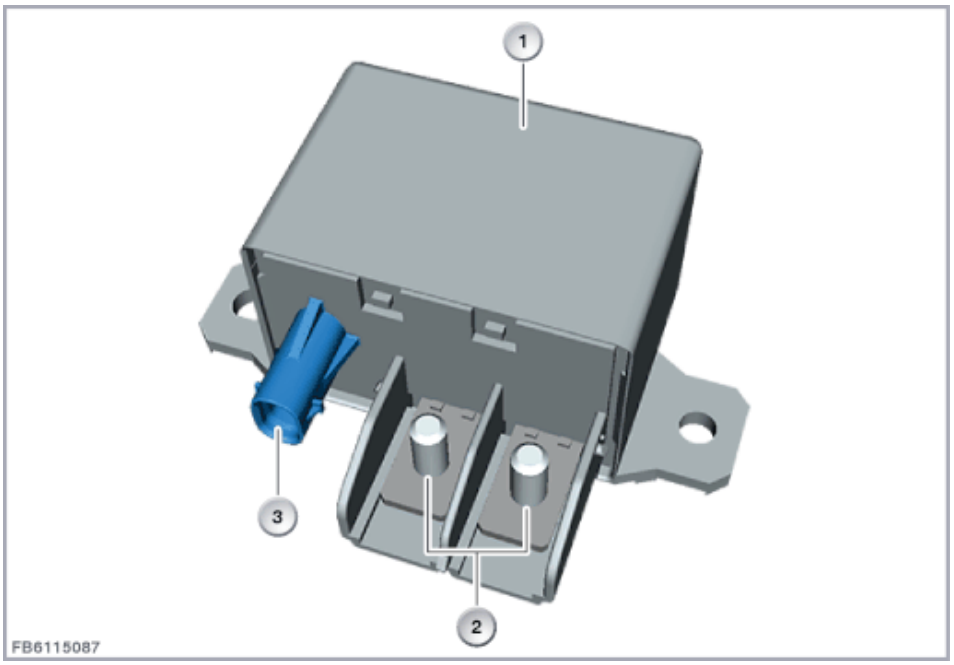
The engine control unit activates the cutoff relay of the electric fan. This connects terminal 30 (supply voltage) to the electric fan.

The following graphic shows an example of the cutoff relay of the electric fan for electric fans up to 600 watt power.



Item	Explanation	Item	Explanation

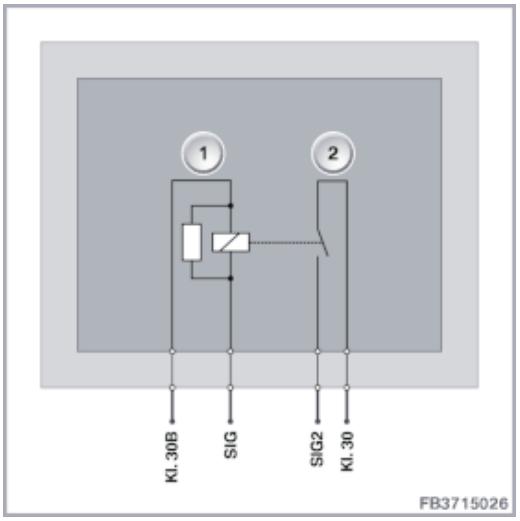
The following graphic shows an example of the cutoff relay of the electric fan for electric fans above 800 watt power.



Item	Explanation	Item	Explanation
1	Cutoff relay, electric fan	2	Power supply for term. 30 and electric fan
3	two-pin plug connection		

Structure and inner electrical connection

A mechanical relay works according to the principle of the electromagnet. A current flow in the excitation coil creates a magnetic current through the ferromagnetic core. Here, there is a moving anchor mounted on bearings, also ferromagnetic. Force is applied to the anchor at the air gap, causing the contact to switch. The anchor is reset to its initial position by spring force as soon as the coil is no longer excited.



Item	Explanation

2	Switch contact

Pin assignments

Pin	Explanation
Terminal 30	Terminal 30, voltage supply
Terminal 30B	Terminal 30B, base operation
SIG	Actuation of excitation coil via engine control unit
SIG2	Voltage supply of electric fan

Nominal values

Observe the following setpoint values for the cutoff relay of the electric fan:

Variable	Value
Voltage supply	9 to 16 V
Response time	4 ms
Temperature range	-40 °C to 85 °C

Diagnosis instructions

Failure of the component

If the cutoff relay of the electric fan fails, the following behaviour is to be expected:

- Electric fan without function

General notes

A function check of the cutoff relay of the electric fan is not possible with the diagnosis system.