

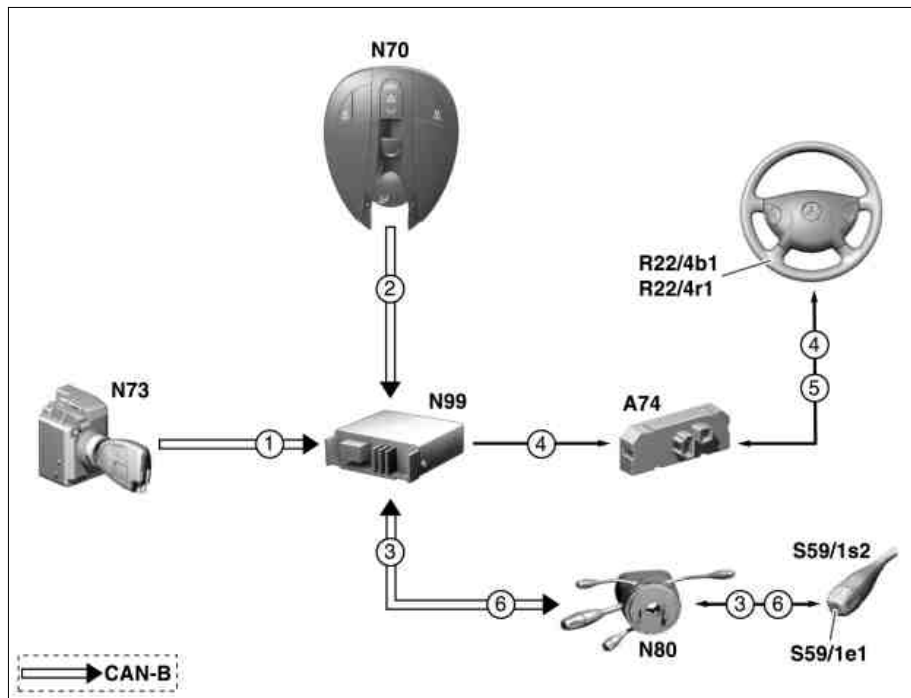
15.03.07

The document has been updated to this date
and will no longer be subject to revision.

- 1 Terminal status
- 2 Interior temperature
- 3 Steering wheel heater (LRH) On/Off
- 4 Voltage supply
- 5 Steering wheel rim temperature
- 6 Function display

- A74 Steering wheel heater electronics
 N70 Overhead control panel control unit
 N73 EIS [EZS] control unit
 N80 Steering column module
 N99 DC/DC converter control unit
 R22/4b1 Heater coil temperature sensor
 R22/4r1 Heater coil
 S59/1e1 Steering wheel heater function indicator lamp
 S59/1s2 Steering wheel heater switch

- CAN-B Controller area network bus, class B (interior compartment) (CAN B)



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General information

In order to make hand contact more comfortable and safer at low temperatures, the steering wheel can be heated up via the steering wheel heater (LRH).

Operation takes place via the steering wheel heater switch (S59/1s2), control is taken over by the DC/DC converter control unit (N99).

i The steering wheel heater (LRH) is operated with a voltage of 42 V or 48 V in order to produce the necessary output of 100 W. The voltage conversion is taken over by the DC/DC converter control unit (N99).

Function requirements

- Circuit 15R or circuit 15 ON
- Interior temperature < 30 °C

Switching off steering wheel heater (LRH) manually

- Turn the steering wheel heater switch (S59/1s2) downwards.
- The signal is read in by the steering column module (N80) and transmitted to the DC/DC converter control unit (N99) via the CAN-B (CAN-B).
- The DC/DC converter control unit (N99) deactivates the steering wheel heater (LRH).

Switching off the steering wheel heater (LRH) automatically

- The maximum permanent heating time is 24 minutes. After this the heater coil (R22/4r1) is switched off by the DC/DC converter control unit (N99).
- At interior temperatures higher than 30 °C the steering wheel heater (LRH) is switched off in order to prevent overheating of the heater coil (R22/4r1). The interior temperature is transmitted by the overhead control panel control unit (N70) via CAN-B (CAN-B) to the DC/DC converter control unit (N99).

i When the steering wheel heater (LRH) is deactivated the steering wheel heater function indicator (S59/1e1) in the steering wheel heater switch (S59/1s2) goes out.

Switch on steering wheel heater (LRH)

- Rotate the steering wheel heater switch (S59/1s2) upwards.
- The signal is read in by the steering column module (N80) and transmitted via the CAN-B (CAN-B) to the DC/DC converter control unit (N99).
- 48 V is applied to the heater coil (R22/4r1) by the DC/DC converter control unit (N99) via the steering wheel heater electronics (A74). In order to protect it from overheating, it is switched over to 42 V after 7 minutes. The temperature of the steering wheel rim is measured by the steering wheel heater electronics via the heater coil temperature sensor (R22/4b1)(A74) and used for the control.

i The activated steering wheel heater (LRH) is displayed by the steering wheel heater function indicator (S59/1e1) in the steering wheel heater switch (S59/1s2).

Diagnosis

Diagnosis for the steering wheel heater (LRH) takes place through the request "read out fault" in the DC/DC converter control unit (N99).

i Reading in the steering wheel heater switch (S59/1s2):

The position of the steering wheel heater switch (S59/1s2) is read out by the steering column module (N80) and placed on CAN-B (CAN-B). As long as the steering wheel heater switch (S59/1s2) is operated (turning up or down), the corresponding position is transmitted cyclically. The center position of the steering wheel heater switch (S59/1s2) is not transmitted by the steering column module (N80).

	Steering wheel heater switch, location/task		GF46.11-P-4001T
	Steering wheel heater (LRH) voltage converter, location/task		GF46.11-P-4000T
	Steering wheel heater electronics, location/task		GF46.11-P-4003T
	Steering column module, location/task		GF54.21-P-4125T
	Overhead control panel control unit, location/task/design		GF82.20-P-4110T
	Electronic ignition switch control unit, location/task		GF80.57-P-4120T