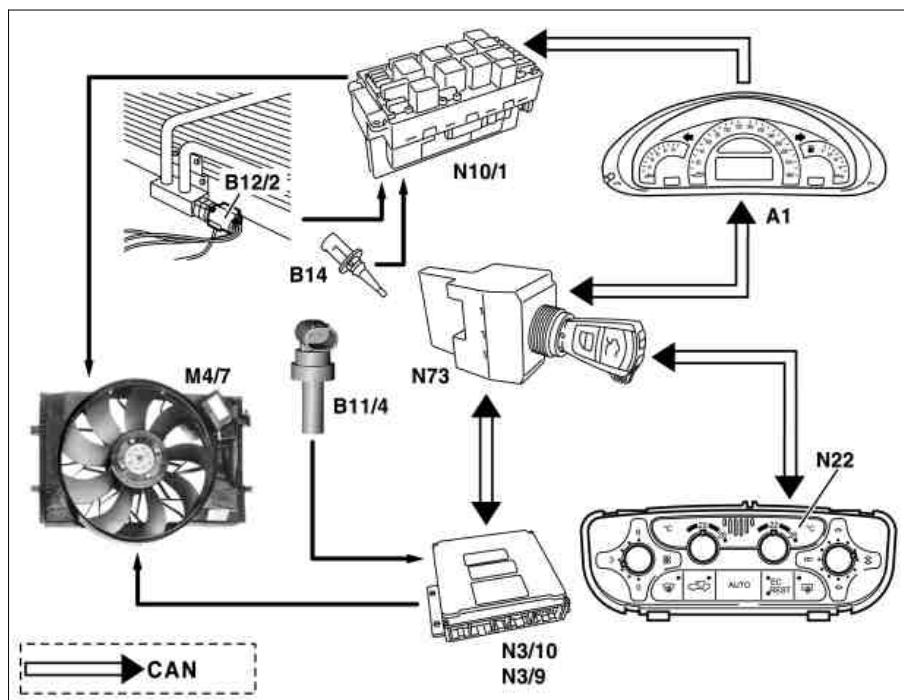


### Actuation of engine and air conditioning electric suction fan with integrated control (M4/7) shown on automatic air conditioning

A1	Instrument cluster
B11/4	Coolant temperature sensor
B12/2	Refrigerant pressure and temperature sensor
B14	Outside temperature display temperature sensor
M4/7	Engine and AC electric suction fan with integrated control
N3/9	CDI control unit (with diesel engine)
N3/10	ME-SFI [ME] control unit (with gasoline engine)



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N10/1	Front SAM control unit with fuse and relay module
N22	AAC [KLA] control and operating unit
N73	EIS [EZS] control unit

CAN Controller Area Network bus class B (interior compartment) (CAN-B)

Depending on the refrigerant pressure or the coolant temperature and the outside temperature, the fan speed is increased infinitely variably.

The AAC [KLA] control and operating unit (N22) or the comfort AAC [KLA] control and operating unit transmits the request for engine and air conditioning electric suction fan with integrated control (M4/7) ON to the EIS [EZS] control unit (N73) via CAN-B (CAN). The EIS [EZS] control unit (N73) receives, via CAN-B (CAN), the coolant temperature, detected by the coolant temperature sensor (B11/4), via the CDI control unit (N3/9) or the ME-SFI [ME] control unit (N3/10) and transmits this value to the front SAM control unit with fuse and relay module (N10/1) via the instrument cluster (A1).

The front SAM control unit with fuse and relay module (N10/1) also receives the refrigerant pressure from the refrigerant pressure and temperature sensor (B12/2) and the outside temperature from the outside temperature indicator temperature sensor (B14).

This input information is passed on to the control unit integrated in the electric suction fan engine and AC with integrated control (M4/7) from the front SAM control unit with fuse and relay module (N10/1).

The input data received by the engine and air conditioning electric suction fan with integrated control (M4/7) are compared by the integrated control unit with stored values and, where applicable, the speed of the engine and air conditioning electric suction fan with integrated control (M4/7) is increased up to 100 %.

When the air conditioning system is switched on, the engine and air conditioning electric suction fan with integrated control (M4/7) runs at around just 20 % output (standard ventilating). The basic ventilation can be switched off under the following conditions:

- Outside temperature  $\leq 15$  °C  
The outside temperature is detected by the outside temperature display temperature sensor (B14) and is forwarded via CAN-B (CAN) to the AAC [KLA] control and operating unit (N22) or to the comfort AAC [KLA] control and operating unit. The pressure-dependent fan speed remains the same.
- Vehicle speed  $> 75$  km/h  
The vehicle speed is forwarded from the ESP and BAS control unit via the instrument cluster (A1) and CDI control unit (N3/9) or the ME-SFI [ME] control unit (N3/10) to the control unit integrated in the engine and air conditioning electric suction fan with integrated control (M4/7). The pressure-dependent fan speed remains the same.

### Cut-in of electric suction fan engine and AC with integrated control (M4/7)

The electric suction fan engine and AC with integrated control (M4/7) is actuated with the following values:

- Refrigerant pressure  $< 12$  bar = fan OFF
- Refrigerant pressure  $> 20$  bar = fan ON (100 %)
- Refrigerant pressure 12 to 20 bar = continuous linear speed increase of suction fan (20 to 100 %)

For the engine and air conditioning electric suction fan with integrated control (M4/7) to continue running even when the refrigerant compressor (A9) is shut down temporarily via the anti-icing protection, a run-on time of approx. 60 seconds is possible.