Climate control systems

The THERMATIC two-zone automatic air conditioning system is standard equipment for model series 212:

The THERMATIC system combines automatic heating, ventilation and cooling systems.

With the two-zone automatic air conditioning the temperature for the driver and front passenger sides can be regulated independently.

The system features air recirculation and a combination filter with fine filtration function as standard.

The main improvements to the climate control system in model series 212 are:

- The passenger compartment ventilation with regard to draft-free ventilation, low noise emissions and effectiveness
- The design and layout of the operating units with regard to clarity, ergonomic handling and harmonization with the interior styling
- The response behavior of the system functions

Control and sensor systems

The automatic function allows the air flow, air distribution and interior temperature to be regulated automatically.

The actual values of the interior temperatures are sensed by one ventilated sensor in the overhead control panel, one near the ignition lock and also by two air outlet temperature sensors on each side in the air stream of the side and footwell vents. Depending on various parameters such as the outside temperature, the coolant temperature and the values of the above sensors, the appropriate target outlet temperature is calculated. If significant deviations are found, the temperature is additionally corrected.

The standard-equipment sun sensor on the instrument panel near the windshield is a dual sensor that registers the intensity and angle of incidence of sunlight on the vehicle. According to the intensity, the registered values are also used for the control loops of the climate control. If the sunlight falls on one side only, an appropriate temperature difference is set between the left and right target temperatures.

Climate control

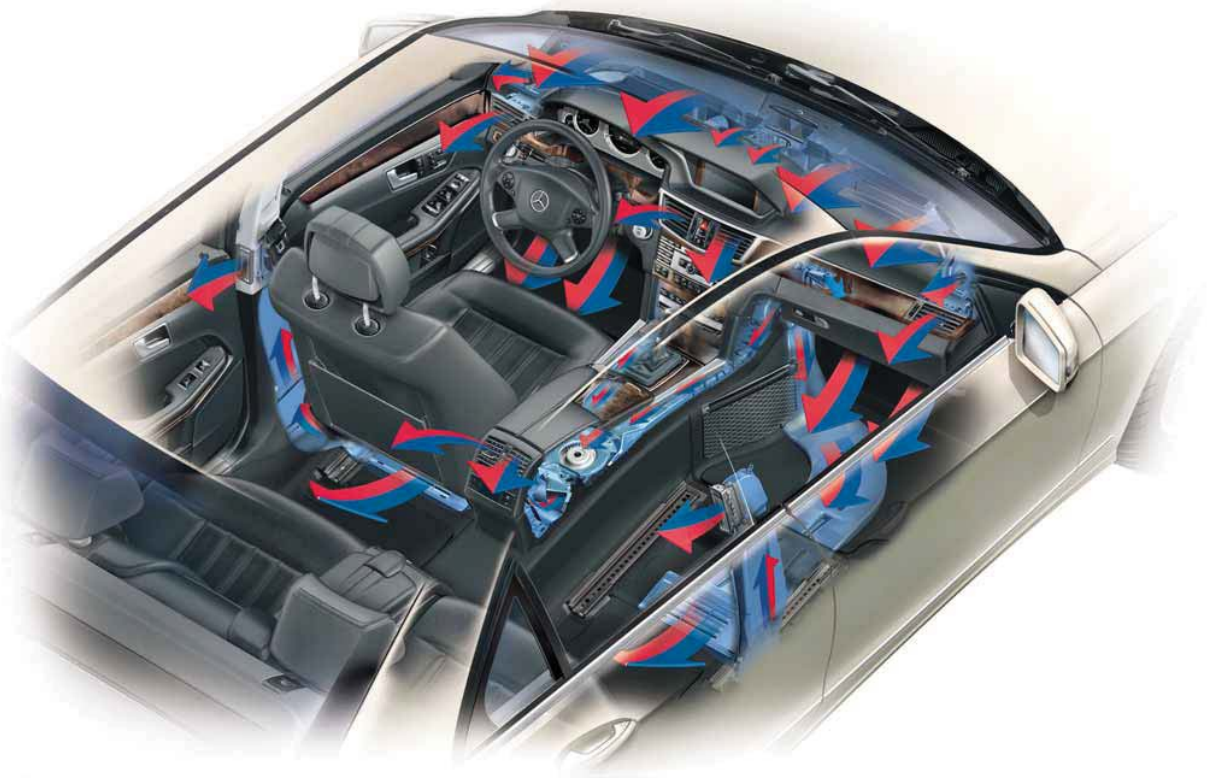
Ventilation

The cross sections in the areas of the air intake, the air ducts, the low-drag center air vents and the air conditioner housing have been optimized to minimize noise from the ventilation system. Additional soundproofing foam inserts in the air conditioner housing and in the center air vents significantly improve noise levels compared with the predecessor model series.

The air outlet openings have been enlarged to provide less drafty but more effective ventilation.

A so-called ram air flap in the intake of the air conditioner housing steplessly throttles the fresh air cross section in order to provide constant air outlet speeds from the vents at high vehicle speeds.

The glove compartment is cooled as standard. The ventilation can be regulated by means of a separate control wheel on the left near the top of the glove box.



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Interior climate control air outlets

AC operating unit

The operating unit of the THERMATIC two-zone automatic air conditioning has been completely redesigned. Modifications have been made to the styling and to the controls.

The new operating unit is modular in design.
The rocker switches at the bottom of the operating unit control the following functions:

- Interior temperature for driver and front passenger
- Blower output in various stages
- Air distribution in the desired areas of the vehicle

In the middle across the full width of each operating unit is the display, where the settings of the automatic air conditioning are shown.

The upper portion of the operating units is separated from the display by a chrome bar and consists of a row of pushbuttons. Above each button is the associated function LED. The row of buttons is mainly used to operate functions that are switched on and off.

A new button in the row is the "ZONE" button. Pressing this button resets all the front passenger's custom air conditioner settings to the driver's settings and the associated LED indicator above the button goes out.

Note

Each ventilation mode can only be selected in automatic mode.

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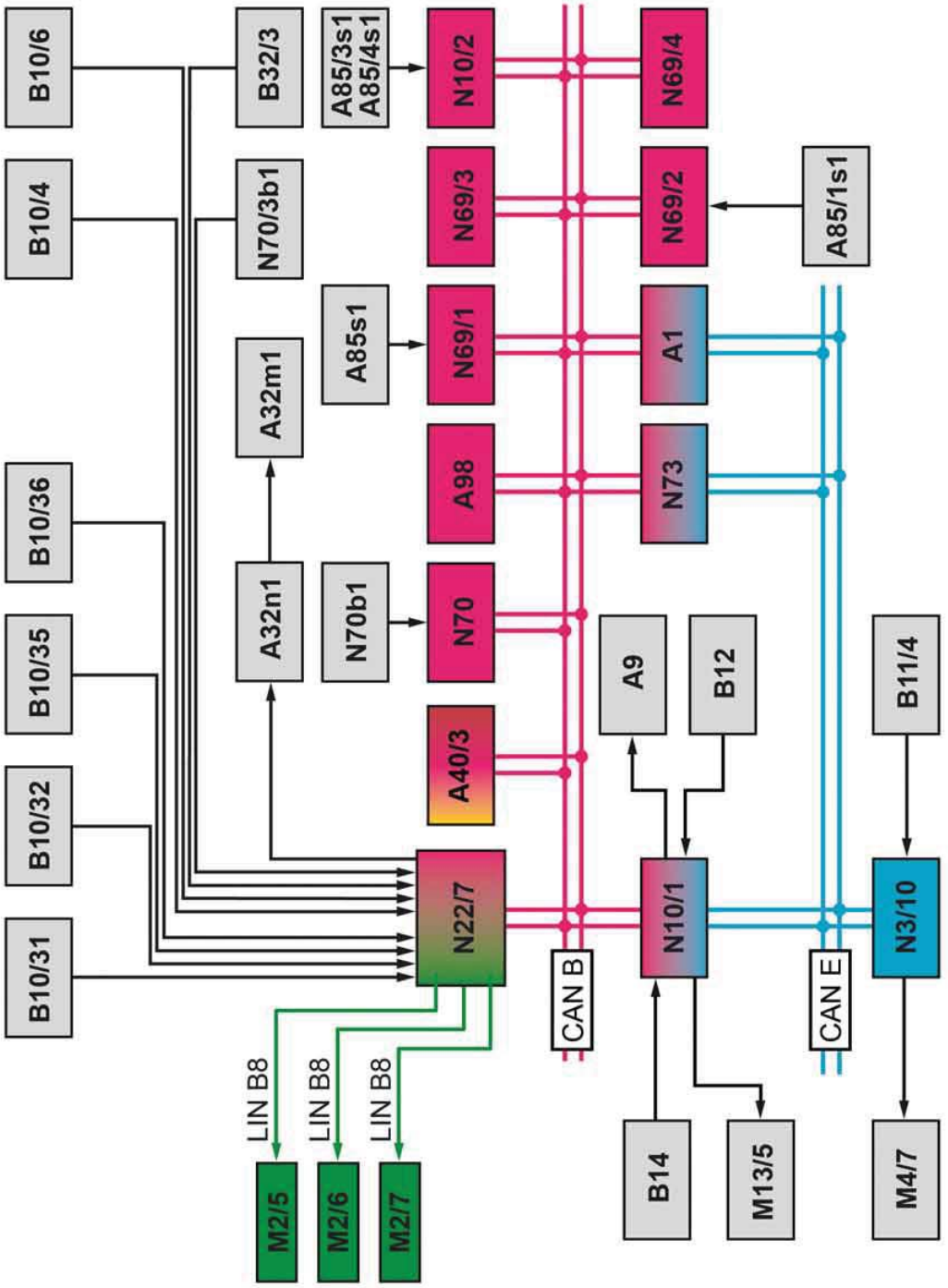
THERMATIC two-zone automatic air conditioning

Climate control



Block diagram of climate control

Legend for block diagram of climate control

A1	*Instrument cluster*
A9	*Refrigerant compressor*
A32m1	*Blower motor*
A32n1	*Blower regulator*
A40/3	*COMAND controller unit*
A85s1	*Left front door rotary tumbler switch*
A85/1s1	*Right front door rotary tumbler switch*
A85/3s1	*Left rear door rotary tumbler switch*
A85/4s1	*Right rear door rotary tumbler switch*
A98	*Panoramic sliding sunroof control module (with code (413))*
B10/4	*Interior temperature sensor*
B10/6	*Evaporator temperature sensor*
B10/31	*Left side air vent air outlet temperature sensor*
B10/32	*Right side air vent air outlet temperature sensor*
B10/35	*Left front footwell vent air outlet temperature sensor*
B10/36	*Right front footwell vent air outlet temperature sensor*
B11/4	*Coolant temperature sensor*
B12	*Refrigerant pressure sensor*
B14	*Outside temperature sensor*
B32/3	*Sun sensor*
M2/5	*Fresh air/recirculated air flap actuator motor*
M2/6	*Left blend air flap actuator motor*
M2/7	*Right blend air flap actuator motor*
M4/7	*Engine and air conditioning fan motor with integrated control*
M13/5	*Coolant circulation pump*
N3/10	*ME-SFI [ME] control unit*
N10/1	*Front SAM control unit with fuse and relay module*
N10/2	*Rear SAM control unit with fuse and relay module*
N22/7	*Automatic air conditioning control and operating unit*
N69/1	*Left front door control unit*
N69/2	*Right front door control unit*
N69/3	*Left rear door control unit*
N69/4	*Right rear door control unit*
N70	*Overhead control panel control unit (with code (414))*
N70b1	*Interior temperature sensor with integrated fan (with code (414))*
N70/3b1	*Interior temperature sensor with integrated fan (without code (414))*
N73	*Electronic ignition lock control unit*
CAN B	*Interior CAN*
CAN E	*Chassis CAN*
LIN B8	*Climate control LIN*