

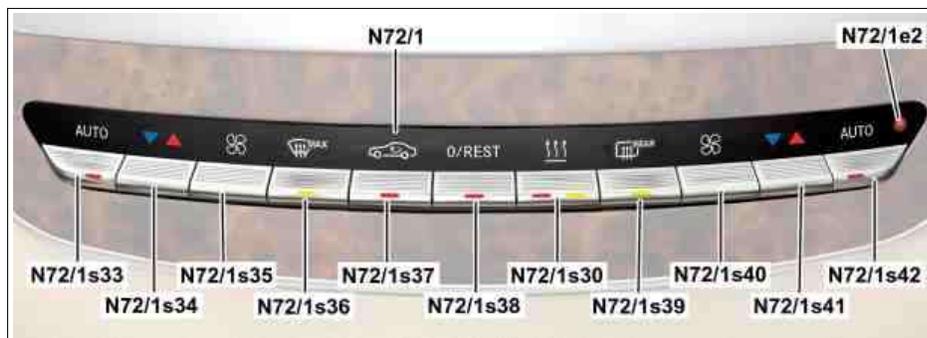
MODEL 216.3, 221.0 /1 as of model year 2009  
/YoM 08

Shown on model 221 with code (228)  
Stationary heater

N72/1 Upper control panel control unit

### Location

The upper control panel control unit is located in the center console.



P54.21-2976-74

### Design

The upper control panel control unit contains the following operating and display elements:

- Stationary heater/residual heat button (N72/1s30) (model 216)
- Stationary heater/heater booster/residual heat button (N72/1s30) (model 221)  
(with code (228) Stationary heater)
- Left automatic air conditioning button (N72/1s33)
- Left temperature selection button (N72/1s34)
- Left blower button (N72/1s35)
- Defrost/heated windshield button (N72/1s36)
- Air recirculation button (N72/1s37)
- OFF/residual heat button (N72/1s38)  
(with code (228) Stationary heater)
- Heated rear window button (N72/1s39)
- Right blower button (N72/1s40)
- Right temperature selection button (N72/1s41)
- Right automatic air conditioning button (N72/1s42)
- ATA [EDW] function indicator (N72/1e2)  
(with code (551) Antitheft alarm system (ATA [EDW]))

### Operation of the vehicle's climate control

The upper control panel control unit permits the following operations:

- Switching the automatic air conditioning on and off
- Interior temperature selection separated for the left and right side
- Blower adjustment separate for the left and right sides
- Overall automatic system separately for the left and right sides
- Defrost function
- Residual heat utilization
- Recirculated air mode
- Remote control of rear air conditioning (with code (582) Air conditioning system in rear) if activated beforehand via the vehicle menu
- Heated rear window (R1) actuation
- Control of stationary heater (with code (228) Stationary heater)

It is operated with the following buttons:

- Temperature selection button
- Defrost/heated windshield button
- OFF/residual heat button

**i** The status of the anti-theft alarm system is shown via the light-emitting diode in the anti-theft alarm system function indicator. On vehicles without code (228) Stationary heater the "OFF button" is fitted instead of the OFF/residual heat button and the "REST button" is fitted instead of the STH/stationary heater button.

### Task

The upper control panel control unit takes over the master function for the search/function illumination. All switching contacts connected to the upper control panel control unit are debounced for  $t = 20$  ms.

The upper control panel control unit has the following tasks:

- Operation of the vehicle's climate control
- Reading in of sensors and signals
- Evaluation of input factors
- Actuation of components

- Automatic air conditioning button
- Blower button
- Air recirculation button
- Stationary heater button (with code (228) Stationary heater)
- Heater booster button (model 221)
- Heated rear window button

**i** All the switch operations for air conditioning functions are transmitted by the upper control panel control unit to the automatic air conditioning control unit (N22/1) via the interior CAN (CAN B).

### Temperature selection button

The desired specified temperature for the left and right sides can be adjusted by pressing the respective temperature selection button. The temperature is displayed in the COMAND display (A40/8) (without code (867) SPLITVIEW) or in the SPLITVIEW display (A40/10) (with code (867) SPLITVIEW).

**i** With code (494) USA version for maximum cooling output "LO" is also shown in the COMAND display or in the SPLITVIEW display. The basic ventilation value rises to 100 %.

With circuit 15C or circuit 15R the residual engine heat utilization system function is activated by pressing the OFF/residual heat button. When the function is activated, the LED illuminates.

### Defrost/heated windshield button

The defrost function is activated by pressing the defrost/heated windshield button. The temperature is set to "Maximum" in the process and the total air flow supplied to the defroster outlets.

In the process the blower output is controlled depending on the coolant temperature.

### OFF/residual heat button

The automatic air conditioning is switched off completely or switched on again by pressing the OFF/residual heat button.

The light-emitting diode in the OFF/residual heat button lights up when the automatic air conditioning is switched off.

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### Blower button

The blower specified values can be adjusted separately for the driver and front passenger side via the blower button. Manual control is only possible in fixed defined stages. Automatic operation of the automatic air conditioning is terminated when blower button for the respective side is pressed.

### Air recirculation button

The fresh air flap and air recirculation flap is closed by pressing the air recirculation button briefly for  $t < 1.5$  s in order to prevent the air supply from outside. The light-emitting diode in the air recirculation button lights up during operation.

Pressing the air recirculation button for  $t > 1.5$  s activates comfort recirculation closing. The windows and tilting/sliding roof (SHD) (model 216 or model 221.1/0 with code (414) Electric glass tilting/sliding roof) or panoramic sliding sunroof (model 221.1 with code (413) Panoramic glass sunroof with top sliding sunroof) are closed in the process.

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**i** The upper control panel control unit is woken up if it is in sleep mode by pressing the stationary heater button.

### Heater booster button

The heater booster is switched on or off while driving by pressing the heater booster button.

### Heated rear window button

The rear window is heated by pressing the heated rear window button. The function switches off automatically after the time stored in the rear SAM control unit with fuse and relay module (N10/2) has elapsed or is ended after the heated rear window button is pressed again.

**i** The operating time of the heated rear window is calculated by the rear SAM control unit depending on the outside temperature and vehicle speed.

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### Instrument panel LIN

The following components are read in via the instrument panel LIN:

- Rotary light switch (S1)
- Cockpit switch group (S6/2)

### Interior CAN

The signals are read in by the upper control panel control unit via the interior CAN.

The functions resulting therefrom are described in the corresponding function descriptions (see block diagram or function schematic).

**i** The upper control panel control unit is woken up if it is in sleep mode by pressing the OFF/residual heat button.

### Automatic air conditioning button

The air is distributed automatically for the respective side after the automatic air conditioning button is pressed.

The automatic function is deactivated by pressing the automatic air conditioning button again or by pressing the blower button.

**i** In addition the automatic air conditioning can be deactivated by the front central operating unit (A40/9).

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When the air recirculation button is pressed again for  $t > 1.5$  s the previous position of the windows and tilting/sliding roof or panoramic sliding sunroof is approached again.

**i** With code (460) Canada version and code (494) USA version, convenience recirculation closing is not possible.

**i** The detailed convenience recirculation closing procedure is described in the convenience feature function (KFB).

### Stationary heater button

The stationary heater is switched on or off by pressing the STH/stationary heater button.

The stationary heater button has two lenses with a total of three light-emitting diodes. Two light-emitting diodes are located behind one lens, one red for displaying the stationary heater function and one blue for displaying the stationary ventilation function. Behind the other lens a yellow light-emitting diode lights up to display the activated preselection time.

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### Reading in of sensors and signals

The input factors are read in with the following connections:

- Direct line
- Instrument panel LIN (LIN 1)
- Interior CAN

#### Direct line

The following signals are read in via a direct line:

- Hazard warning system button (A40/9s3)
- Freely programmable button (A40/9s10)

**i** The upper control panel control unit is woken up if it is in sleep mode by pressing the hazard warning system button or the free programming button.

**i** All the other controls of the front central operating unit are read in by the COMAND controller unit (A40/3) via telematics CAN (CAN A).

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### Actuation of components

The actuation of the components takes place via the following connections:

- Direct line
- Instrument panel LIN
- Interior CAN

#### Direct line

The following components are actuated via a direct line:

### Evaluation of input factors

The input factors that have been read in are evaluated by the integrated microprocessor and the affected components are then actuated.

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- Right front footwell lamp (E17/15)
  - Left front footwell lamp (E17/16)
  - Ambiance illumination LED 1 (E43/1)  
(with code (876) Interior lights package)
  - Ambiance illumination LED 2 (E43/2)  
(with code (876) Interior lights package)
  - Ambiance illumination LED 3 (E43/3)  
(with code (876) Interior lights package)
  - Ambiance illumination LED 4 (E43/4)  
(model 216 with code (876) Interior lights package)
  - Glove box lamp switch (S17/9)
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### Instrument panel LIN

The following components are actuated via the instrument panel LIN:

- Analog clock (A70/1)
- Rotary light switch
- Cockpit switch group

### Interior CAN

The signals are sent by the upper control panel control unit over the interior CAN.

The functions resulting therefrom are described in the corresponding function descriptions (see block diagram or function schematic).

 PE	Wiring diagram for upper control panel control unit	Model 216	PE54.21-P-2119-99CAA
		Model 221	PE54.21-P-2119-99SAA