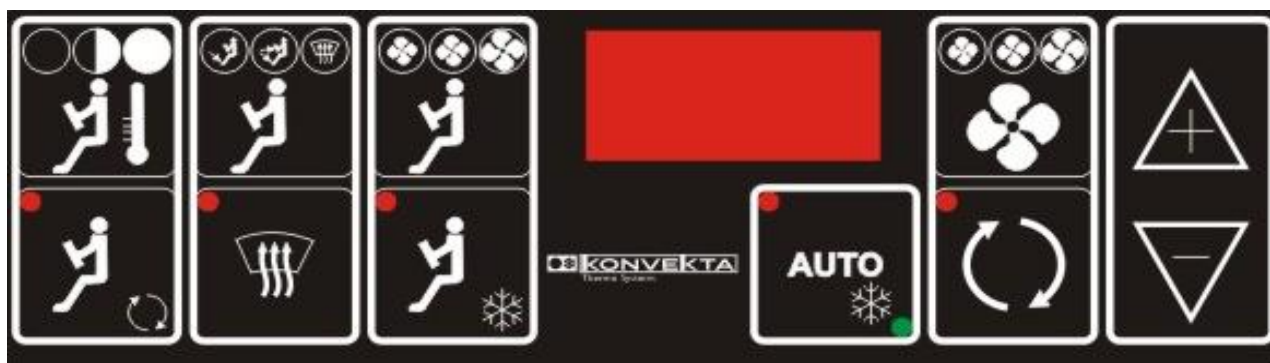


CONTROL UNIT

User Manual

(Model KK9)



The control unit is located on the driver. On the rear side of the unit are one 22-pin, one 20-pin, and one 6-pin socket connector.

On the front side are 11 buttons for various operations of the air conditioning system. Parameter values and other information, such as the desired (set) and the present temperature, are displayed on the seven-segment, three-figure display (D) in the passenger compartment control unit.

Part No: T11-001-590 (KK9.0 _Euro 5_ with roof heating)













Part No: T11-001-603 (KK9.1 _Euro 6 with roof heating)

Part No: T11-001-622 (KK9.2 _Euro 5 without roof heating)

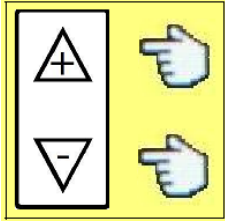
Part No: T11-001-624 (KK9.3 _Euro 6 without roof heating)

Date of issue: 24/04/2014

4.1. Functions of the KK9, 9.1, 9.2, 9.3 Control Unit's Key Pad

Key	Key function
	Heating mode on / off in the cockpit. When off, LEDs are off.
	"Air circulation" / "Fresh air" selection in the cockpit. (LED on in case of internal air)
	"Air flap position" selection in the cockpit.
	Window defrost in the cockpit
	Manual activation / adjustment of air conditioning fan output in the cockpit
	On / Off button for cooling mode in the cockpit
	On / Off button for passenger compartment air conditioning
	Manual adjustment of fan output in the passenger compartment
	"circulation" / "Fresh air" selection in the passenger compartment (LED on in case of int. air)
	Comfort temperature increase in the passenger compartment (15 °C to 30 °C)
	Comfort temperature decrease in the passenger compartment (30 °C to 15 °C)
	Display screen

4.2 “Sensor“ value readings



Press the + and – button **at the same time** and you enter the sensor reading mode.

With the + button you can select a sensor (P1,P2, P3, P4, P5)

After 5 seconds the selected sensor displays the temperature. The display automatically returns to the passenger compartment temperature.



“Passenger compartment right side internal temperature sensor ”

Location: Inside the right air suction vent when looking from rear to front



“Passenger compartment left side internal temperature sensor ”

Location: Inside the left air suction vent when looking from rear to front



“Option_not active - - ”

Location:



“Option _not active - - ”

Location:



“Ambient temperature sensor“

Location: Under the front left bumper

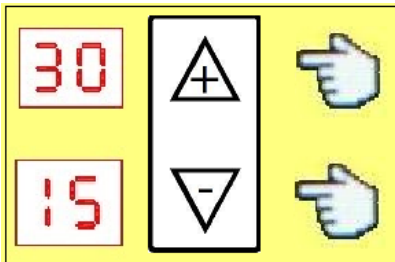


While switched on, the current internal temperature is displayed.

4.3 Setting the “desired temperature” in the passenger compartment



Press the Auto button on the control unit (LED lights up)



Press the + button to increase the temperature.
Max.temperature 30 °C

Press the - button to decrease the temperature.
Min. temperature 15 °C

4.4 Operating the ceiling air conditioning in “cooling mode”

Switch on the engine (ref. to vehicle operating manual).

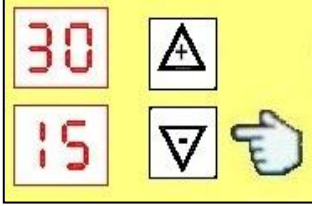


Press the “**Auto**” button on the control unit.

The air conditioning now operates in “**automatic mode**”.

(When “Auto” is active, the red LED lights up; when in “cooling mode”, the green LED lights up.)

Please note! : When pressing “Auto” the temperature value is automatically set to 21 °C.



When you **lower** the comfort temperature in the passenger compartment **by min. 1,5 °C**, the system will switch to “**cooling mode**” after 60 secs.

The blower fans will automatically adjust their speed to the selected temperature.

Press “Auto” again to leave the automatic operating mode.



Important: !!

Please note: The condenser fans switch off 20 secs. after air conditioning switch-off.

In “Auto” mode, the blower fans automatically operate on 3 levels depending on the data supplied by the set and internal temperature sensors.

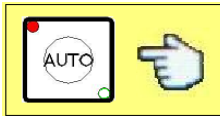
If set temperature and internal temperature are equal, or if the difference is 2°C or less over set temperature, the blowers switch to level 1 (60%).

If the difference between set temperature and internal temperature is more than 2°C over set temperature the blowers switch to level 2 (80%).

If the difference between set temperature and internal temperature is more than 4°C over set temperature the blowers switch to level 3 (100%)

4.5 Operating the ceiling air conditioning in “heating mode”

Switch on the engine (ref. to vehicle operating manual).

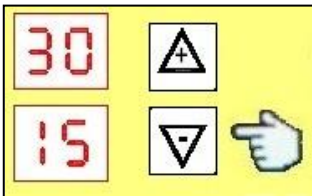


Press the “**Auto**” button on the control unit.

The air conditioning now operates in “**automatic mode**”.

(When “Auto” is active, the red LED lights up;)

Please note! : When pressing “Auto” the temperature value is automatically set to 21 °C.



When you higher the comfort temperature in the passenger compartment **by min.1,5 °C**, the system will switch to “**heating mode**”.

Press “Auto” again to leave the automatic operating mode.

When the roof heating is switched on (**Auto mode**) running the sidewall heater and driverkabin heater also.

4.6 Manual adjustment of “ventilation output” in the passenger compartment

The ventilation output can be adjusted manually to the desired value.



Press the blower button to increase the ventilation output (3 levels: 0-1-2-3-0). When you press the button while on level 3, the system returns to 0.

You can monitor the fan speed with the aid of the LED-lit symbols on the blower button. The symbol whose LED is on indicates the fan speed level.



Led I Evaporator blower fan on level 1 (the respective LED lights up)



Led II Evaporator blower fan on level 2 (the respective LED lights up)



Led III Evaporator blower fan on level 3 (the respective LED lights up)

When pressing the blower button the fan speed is displayed on the control unit display in coded form: F0-F1-F2-F3-F0.



Display F0 / Blower fan off



Display F1 / Blower fan on level 1



Display F2 / Blower fan on level 2



Display F3 / Blower fan on level 3



Important: !!

When “Auto” is active on the air conditioning control panel, the fans cannot be switched off in cooling or heating mode. They continue to operate on_ level 1.

4.7 Operating the “circulation / fresh air mode” of the passenger air conditioning



In Auto mode, the passenger compartment A/C system starts in the “Circulating Air” mode (the LED lights up). However, if desired, you can switch to “Fresh Air” mode (the LED goes out).

When pressing respective button once, the A/C system for the passenger compartment will switch from circulating air mode to fresh air mode (the corresponding LED goes out).

When you press again, the system switches from fresh air to circulating air mode.

For maximum cooling output, the system should be operated in the circulating air mode; switch to fresh air mode only if and when required.

5.0 Operating the front/cockpit air conditioning in “cooling mode”



Press the “cockpit cooling” button on the control unit. Magnetic Valve opens and the cooling process begins. The respective LED lights up.
To switch off, press the same button again. The LED goes out.

The cockpit air conditioning can only be activated when the passenger compartment air conditioning is in cooling mode.
The fans cannot be switched off in cooling mode. They continue to operate on level 1.

5.1 Operating the front/cockpit air conditioning in “heating mode”



Press the respective button on the control unit (repeatedly) to open the heating valve to 50% or to 100% or to switch it off again.



LED display: Motor-driven valve 50% open
(Blower working with level 1 and water pump its on)



LED display: Motor-driven valve 100% open
(Blower working with level1 and water pump its on)

Every time you press the button the setting changes: **0% off, 50%, 100%** - 50%, 0% off. When off the LED goes out as well.

5.2 Manual adjustment of “ventilation output” of the front / cockpit air conditioning

The ventilation output of the front / cockpit air conditioning can only be adjusted manually.



Press the blower button to increase the ventiaition output (3 levels: 0-1-2-3-0). When you press the button while in level 3, the system returns to 0 (off). When off, the LED is out.

You can monitor the fan speed with the aid of the LED-lit symbols on the blower button. The symbol whose LED is on indicates the fan speed level.



Led 0 Frontbox blower fan off (the LED is out)



Led I Frontbox blower fan on level 1 (the respective LED lights up)



Led II Frontbox blower fan on level 2 (the respective LED lights up)



Led III Frontbox blower fan on level 3 (the respective LED lights up)

When pressing the blower button the fan speed is displayed on the control unit display in coded form: dF0-dF1-dF2-dF3-dF0. At “dF0” the fan is off.



Display dF0 / Blower fan 0 / off



Display dF1 / Blower fan level 1



Display dF2 / Blower fan level 2



Display dF3 / Blower fan level 3

5.3 Operating the “circulation / fresh air mode” of the cockpit / front air conditioning



When pressing flap button once, the A/C system for the driver compartment will switch from fresh air mode to circulating air mode. The corresponding LED will light up. The A/C system for the driver compartment usually runs in fresh air mode. The corresponding LED will not light up.

If required, the system can be switched to circulating air mode.

5.4 “Air-flow direction flap” position setting of the cockpit / front air conditioning



Press the flap positioning button (repeatedly) to select the desired air circulation (3 positions possible).



1st Air flap position –Front torso / legs
(when active the respective LED lights up)

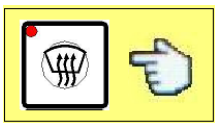


2nd Air flap position -Front torso /legs / window
(when active the respective LED lights up)



3rd Air flap position-Front torso / window
(when active the respective LED lights up)

5.5 Setting the cockpit / front air conditioning to “front window defrosting”



Press “DEF” for automatic front window defrosting.
The fans automatically set their speed to max. (level 3)
The heating values automatically open to 100%. (Water pump on)
The blower flap automatically switches to front / window.

To switch this function off, press “DEF” again (the respective LED goes out).

Error Codes displayed on the air conditioning control unit

10 error codes have been defined

EEE- EEP : Malfunction

A1_ No power

C1_ The magnetic clutch coil is defective

H1_ Heating Valve is defective

E1_ Internal temperature sensor error / right side / short circuit or cable break

E2_ Internal temperature sensor error / left side / short circuit or cable break

E5_ Ambient temperature sensor error / short circuit or cable break

E6_ Positioning error of the A/C air flap motor / right side /(Um.FI)

E7_ Positioning error of the A/C air flap motor / left side /(Um.FI)

E10_ Positioning error of the frontbox 3-way motor-driven valve

E12_ Positioning error of the frontbox air flap motor (window/legs)