



KONVEKTA

The Innovation Company.

Operating Instructions

for KONVEKTA air conditioning
units series

Ultra light 2nd generation

UL500 - UL700



R134a
with control KS610

ID#: BBA-KL5N0202A
Version: A03

Konvekta AG
Am Nordbahnhof 5
34613 Schwalmstadt
Germany

& +49 (0) 66 91 / 76 – 0
☎ +49 (0) 66 91 / 76 - 200
✉ Info@konvekta.com
www.konvekta.com

Contents

Page:

• Introduction	3
• Information on the operating instructions	4
1. Technical data Air conditioner	4
1.1. Series Ultra Light UL500 – UL700 2nd generation	4
2. Compressor	4
3. Intended Use	5
3.1. Operating Conditions	5
4. Operation	5
4.1. Operation panel	5
4.2. Description of the keys	6
5. Maintenance / Service	8
5.1. Troubleshooting	9
6. Warranty Conditions	9
7. Waste disposal in accordance with legal provisions	10
8. History of modification	10

Appendix:

- Maintenance Schedule Bus [WP07050618](#)

Introduction

These operating instructions have been written for drivers, operators and the maintenance staff of your air conditioning unit.

In this context, we refer implicitly to the compliance with our general installation guidelines. These can be obtained from the KONVEKTA technical after sales service: TKD@konvekta.com.

Please observe our valid safety instructions, available under www.konvekta.de/asv.html. In case of order placement or any other conclusion of contract the safety instructions get integral part of the contract.

These operating instructions have to be read carefully and made use of before the first start-up and after that regularly by each person who is involved in handling the machine:

- **Operation including troubleshooting and waste disposal of fuels and auxiliary agents.**
- **Servicing, inspection, repair**
- **Transport**

This facilitates the handling and avoids trouble caused by improper operation. Working in compliance with these operating instructions increases operation reliability and service life of the air conditioning unit and reduces life cycle costs.

⚠ Please complete these instructions by adding the national provisions for prevention of accidents and environmental protection.

⚠ These instructions are part of the air conditioning unit. Always have a copy at hand in the driver's cabin

You will certainly understand that we will not recognize any warranty claims due to improper handling, inadequate maintenance, applications that do not correspond with the determined use, utilization of non-admitted fuels or the non-observance of safety provisions.

KONVEKTA will annul without notice all obligations concerning guarantee, service contracts etc. regardless if granted by KONVEKTA or its distributors in case other than original KONVEKTA spare parts or parts bought from KONVEKTA AG have been used for maintenance and repair.

These operating instructions contain all necessary information to operate your air conditioning unit. In case you need more explanations please contact the next KONVEKTA service station^①.

^① On our website www.konvekta.com in category >service< you will find a survey of contact details of all our service partners close to your location.

Information on the operating instructions

These operating instructions are valid for the air conditioners type 2nd generation:

➤ UL500	➤ UL700
----------------	----------------

With control KS610

☞ When taking the unit into operation we recommend adding the following data. This will also be important for your orders of spare parts, and in case of warranty.

Serial number of the unit:	
Order No.:	
Year of construction:	/ (MM/JJ)
Date of first operation:	// (TT/MM/JJ)

The machine is in accordance with the EC machinery directive 2006/42/EC.

The unit contains or needs fluorinated greenhouse gas for operation and is subject to identification requirements in accordance with F-Gas Regulation 517/2014.

Due to the fact that scope of supply depends on the order, equipment of your product may differ in some parts of description.

In case your product is equipped with details not shown or described in the operating instruction, your KONVEKTA -Service-Station will always be at disposal for informing you about correct operation.

In the course of further developments, we reserve the right to technical modifications without notice. Guarantee and liability conditions of **KONVEKTA AG**'s general business conditions are not enlarged by the above notes.

Indications and photos should neither be copied and circulated nor used for competitor's purposes. All rights according to the copyright remain expressly reserved

Manufacturer: KONVEKTA AG, P.O.Box 2280, D-34607 Schwalmstadt

1. Technical data Air conditioner

1.1. Series Ultra Light UL500 – UL700 2nd generation

			
Type		UL500	UL700
Refrigerant		R134a	R134a
Refrigerant quantity ca.	[kg]	8,5	9,5
GWP		1.430	1.430
Operating voltage	[Volt DC]	26	26
Power consumption	[A]	63	90
Cooling capacity	[W]	24.000	33.000
Heating capacity	[W]	30.000	38.000
Evaporator – air volume	[m3/h]	4.720	7.080
Length/Width/Height⁽¹⁾	[mm]	2135/2083/215 ⁽¹⁾	2655/2083/215 ⁽¹⁾
Weight	[kg]	109	137

⁽¹⁾ body height middle of roof

2. Compressor



Important to avoid leakages at the shaft seal of the compressor:

The compressor should be started every 4 weeks for approx. 15 minutes! This also applies when the vehicle is not into operation for a longer period or when the air conditioning unit is not used!

3. Intended Use

The KONVEKTA air conditioning unit is an air conditioning system that works with the ozone friendly refrigerant R134a and which creates a pleasant and individually adjustable room temperature by means of forced convection. The determined use includes also the observance of the operating instructions as well as the proof of regular inspections.

3.1. Operating Conditions

NOTE: KONVEKTA uses components made of copper and aluminum, which last a whole unit lifetime under normal environmental conditions. Should the units be operated under aggressive environmental conditions, i.e. air containing salt-, phosphate- or ammoniac extremely, a corrosion of the copper- and aluminum components cannot be ruled out. The copper- and aluminum components of the KONVEKTA systems are not suitable for such extreme application conditions. We indicate emphatically, that corrosion is not subject to warranties for defects. KONVEKTA does not take over any warranties for defect, neither for corrosion nor for consequential damage resulting there from, nor for damages caused by cleaning the systems with highly compressed or corrosion advancing substances.

4. Operation



Attention in case of roof top a/c units: Never switch on the a/c unit during car-wash!
Danger of accidents!

- Focussing your attention on the road traffic is of top priority.
- Only operate your air conditioning unit when the traffic situation allows it!
- Please note that the control panel keys have not been designed for heavy stressing.
- Excessive or fast pressing of the keys for adjusting the set temperature does not accelerate the cooling down process. It possibly damages the control panel and so affects the general performance of the air conditioning unit.

4.1. Operation panel

You operate the air conditioning unit via KS610 control unit.

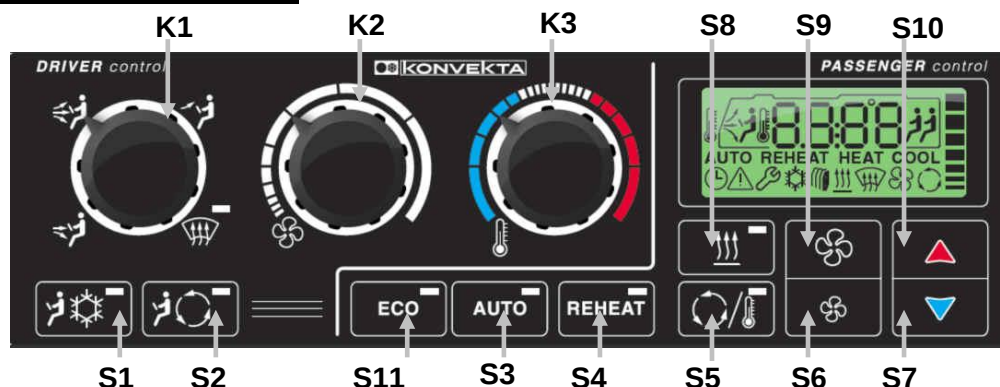


The control device is in radio size, out of plastic, with lateral attachment clips. On the back side there are 4 AMP connecting plugs. To detach the controller a conventional unlocking device with 2 brackets is needed.

There are 10 keys and 3 rotary knobs to control front box, a/c, convectors and under seat heaters. Via LCD (liquid crystal display) with green background lightning and user-friendly keys all functions of the controller are available to the user.

The keyboard is a plastic foil keyboard with an abrasion-resistant touchpad. The touchpad is designed in a way that the conductor plates behind are protected against intruding splash water.

4.2. Description of the keys



Rotary knob K1



Rotary knob	Functional description
Turn	When the ignition is ON, the air distribution flap can be adjusted by turning the knob. Right attitude is DEFROST for the window it's only possible with alternator ON.

Rotary knob K2



Rotary knob	Functional description
Turn	When the ignition is ON, the fan speed can be adjusted from the driver's place. If the alternator is OFF, only min. limited speed.

Rotary knob K3



Rotary knob	Functional description
Turn	When the ignition is ON, the driver's desired temperature can be adjusted. (12 – 30°C) Left stop position is OFF.

Key S1



Key press	Functional description
Short press	Switching on the driver's seat air conditioning. Is only active when the cab air conditioner is ON.
Long press	---
Double-click	---
Key combination	---

Key S2



Key press	Functional description
Short press	Switches the driver's seat to recirculation.
Long press	---
Double-click	---
Key combination	---

Key S3



Key press	Functional description
Short press	Switches automatic ON and OFF.
Long press	Can be switched between AUTO / HEAT and COOL.
Double-click	---
Key combination	AUTO +  You get into the service area. Ignition OFF: AUTO +  Querying the error message. AUTO +  Set time system.

Key S4



Key press	Functional description
Short press	Switches the air conditioning for example for 20 min. at REHEAT.
Long press	---
Double-click	---
Key combination	---

Key S5



Key press	Functional description
Short press	Switches the air conditioning for example for 10 min. at recirculation.
Long press	---
Double-click	---
Key combination	---

Key S6



Key press	Functional description
Short press	Reducing the manual fan settings to 7 steps.
Long press	---
Double-click	---
Key combination	---

Key S7



Key press	Functional description
Short press	Reducing the room set temperature for the passenger compartment. After reaching the min. Temperature 6x press key >> MAX COOL.
Long press	---
Double-click	---
Key combination	---

The set temperature can be adjusted from 12° to 28°C. The basic indication in the display is the interior set temperature.

Key S8



Key press	Functional description
Short press	Switches the auxiliary heater ON.
Long press	---
Double-click	---
Key combination	Ignition OFF:  +  Set start time auxiliary heater.

Key S9



Key press	Functional description
Short press	Increasing the manual fan settings to 7 steps.
Long press	---
Double-click	---
Key combination	 +  You get into the service area. Ignition OFF:  +  Querying the error message.

With this key the blower speed can be adjusted manually in 7 steps. The manual setting takes priority over AUTO setting.

Key S10



Key press	Functional description
Short press	Increasing the room set temperature for the passenger compartment. After reaching the max. Temperature 6 x press key >> MAX HEATING.
Long press	---
Double-click	---
Key combination	Ignition OFF:  +  Set time system.  +  Set start time auxiliary heater.

The set temperature can be adjusted from 12° to 28°C. The basic indication in the display is the interior set temperature.

Key S11



Key press	Functional description
Short press	Turns ECO-mode ON or OFF (AUTO-mode without compressor)

5. Maintenance / Service

Please arrange regular dates for maintenance works and services with a KONVEKTA service station, as indicated in maintenance schedule bus no.: WP07050618. On our website www.konvekta.com in category >service< you will find a survey of contact details of all our service partners close to your location.

- Only qualified staff is allowed to carry out these works! -

—or general instructions on repair — and maintenance works please contact via email:

TKD@konvekta.com



Danger of accidents!

Qualified staff in charge of installation and maintenance have to be trained in accordance with EN 378-Part 4 and (EC) No.307/2008 and must strictly follow the legal provisions.

Any works or modifications at the air conditioner which are carried out improperly can lead to malfunction and so endanger operational reliability. We recommend having all works and modifications carried out at an authorized KONVEKTA Service Station.

Before carrying out any maintenance works at your air conditioning unit, carefully read the KONVEKTA safety provisions (TD00052A) in order to avoid any dangers and accidents!

5.1. Troubleshooting



Only qualified staff is allowed to carry out these works!

Trouble	Cause	Repair by authorized Service Station only
a/c is not running	thermostat open	check inside temperature ^① re-adjust thermostat ^①
	electric connections disconnected	check electric connections at switch-board
	relay defective	check relay, replace if necessary
	defrost thermostat has switched off	check evaporator blower, replace if necessary
	outside temperature too low (possible icing of evaporator)	switch on "ventilation" only
	evaporator coil dirty	clean evaporator coil with compressed air
	magnetic clutch	check connections at magnetic clutch
	compressor does not compress	check high and low pressure, replace compressor if necessary
	excess pressure (pressure too high)	check axial fans check fuses at switchboard clean condenser coil with compressed air
	excess pressure caused by high outside temperature	run unit until pressure has stabilized ^①
	leakage in a/c unit, lack of refrigerant	check a/c unit for leakages, refill refrigerant
	low pressure, dryer clogged	replace dryer
	low pressure, screen of expansion valve clogged	clean screen; replace dryer

^① By operator

6. Warranty Conditions

The current „General Warranty Conditions“ KONVEKTA AG“ will apply. A copy will be furnished by the warranty department. Please contact gwl@konvekta.com.

7. Waste disposal in accordance with legal provisions

After the phase of use the last proprietor is responsible for the adequate waste management. The environmental regulations in the exporting country must be observed.

The following list contains the most important regulating literature, valid for the *Federal Rep. of Germany*:

- Resolution for dangerous substances
- Law for waste circulation (KRW/AfgG))
- Resolution for the proofs of utilization and removal
- Criminal Code (StGB) 28th section „criminal acts against the environment“ §326 - Environment jeopardizing waste management
- Law of chemicals § 27 - penal prescriptions
- Resolution for used oil
- Law of water balance
- Resolution for the waste management of old cars and the adaptation of road prescriptions
- Resolution (EC) No. 2037/2000 of the European Parliament and of the Council for materials that affect the ozone layer
- Resolution to prohibit certain ozone destroying halogen hydrocarbons.

The used refrigerant endangers the environment. When dealing with refrigerants the existing prescriptions and regulations are to be followed. **Only qualified staff is allowed to carry out these works!**

Water endangering substances - –cc. to §§19g-19l - –re solid, liquid, and gaseous substances. e.G.: mineral and tar oils (cooling oils), halogen containing organic combinations (refrigerants).

© Source of supply:
 - Bundesanzeiger
 - Beuth Verlag
 - dtv (Deutscher Taschenbuch Verlag)

8. History of modification

Version	Date	File	Remark	File
A00	01.10.2015	B. Keßler	Source file	BAKL5N0202A
A01	06.03.2017	B. Keßler	Information on the operating instructions and technical data expanded with F-gas-regulation	BAKL5N0202A
A02	12.10.2017	B. Keßler	Pictures of the air conditioning updated	BAKL5N0202A
A03	19.10.2021	B. Keßler	Point 2 compressor added	BAKL5N0202A