

Topic: **Start-up after lengthy storage**

This info describes capacitors formation. This applies to all devices with DC link circuit.

Problem, reason

The DC link of the KEB COMBIVERT is equipped with electrolytic capacitors. If electrolytic capacitors are stored de-energized, the oxide film acting as dielectric medium reacts with the acidic electrolyte and degrades itself slowly. This affects the dielectric strength and the capacity.

If the capacitor is re-commissioned with rated voltage, it is tried to re-build the oxide film abruptly. This generates heat and gas and destroys the capacitor.

Remedy

⚠ DANGER



Electrical voltage at terminals and inside the device!

Risk of death by electric shock!

- ▶ Work is only permitted for trained service personnel.
- ▶ Never work under tension.
- ▶ Wait capacitor discharge time (5 minutes) before unscrewing of cables.

In order to avoid defectives, the KEB COMBIVERT must be commissioned depending on the storage period as follows:

Storage period < 1 year

- ▶ Start-up without special measures

Storage period 1...2 years

- ▶ Operate inverter one hour without modulation

Storage period 2...3 years

- ▶ Remove all cables from the power circuit; especially of braking resistor or module
- ▶ Open control release.
- ▶ Connect variable transformer to inverter input.
- ▶ Increase variable transformer slowly to indicated input voltage (>1 min) and remain at least on the specified time.

Technical Information

Voltage class	Input voltage	Residence time
230 V	0...160 V	15 min
	160...220 V	15 min
	220...260 V	1 h
400 V	0...280 V	15 min
	280...400 V	15 min
	400...500 V	1 h
690 V	0...420 V	15 min
	420...600 V	15 min
	600...760 V	1 h

Table 1: Capacitor formation

Storage period > 3 years

- ▶ Input voltages as before, however double the residence times from table 1 per year. Eventually change capacitors.

After expiration of this start-up the KEB COMBIVERT can be operated on nominal rating conditions or delivered to a new storage.



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