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## TECHNICAL POSSIBILITY OF SWITCH-ON DELAY OF AN ELECTROSTATIC PRECIPITATOR IN THE AIR CONDITIONING SYSTEM OF A VEHICLE

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# TECHNICAL POSSIBILITY OF SWITCH-ON DELAY OF AN ELECTROSTATIC PRECIPITATOR IN THE AIR CONDITIONING SYSTEM OF A VEHICLE

## **Current Situation**

Electrostatic precipitators for air conditioning systems are well known.

## **Disadvantage**

When the electrostatic precipitator is switched on immediately, a noise may occur. The background to this is as follows: under special environmental conditions (temperature and humidity), a flashover occurs at the different potentials and this noise is audible in the vehicle interior (comparable to the whispering under a high-voltage line).

## **New Idea**

The idea is to start up the electrostatic precipitator and/or a PCU (Particel Charging Unit) only after a delay time (after terminal 15 ON) of e.g. 2-3 minutes (delayed start-up). This handling can be done in the electrostatic precipitator control unit or another master/control unit.

This delay may depend on different outdoor conditions:

- Humidity
- Temperature
- Vehicle idle time
- Previous trip
- Operating modes of other actuators of the air conditioning

The device can optionally be used several times in the vehicle (if several systems are installed).

## **Advantage**

The advantage of this application is that the electrostatic precipitator/PCU then cannot generate any noise. This means that the noise would no longer be audible to the customer in the vehicle interior.

## **Technical Implementation**

- Vehicle with electrostatic precipitator/PCU
- Control units with appropriate software for control
- Corresponding intelligence in a separate control unit and/or in the master control unit from another component