

Sadek, T.; Lygin, K.; Langbein, S.

SMA Actuator System for Unlocking Tasks in Interiors of Vehicles

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Abstract

The increased automation and growing comfort demands of technical applications (e.g. automobile industry) require the use of simple and effective actuator components. The interior of vehicles offer numerous opportunities, where mechanical actuators can be or have already been replaced by electrical actuators, e.g. unlocking functions for cup holders or ash trays as well as opening and/or closing of design covers. The automobile industry demands this increase in comfort to grant operator convenience a superior impression. The growing application range of electrical actuators leads to new problems. The need for optimisation can be located in fields of weight, sounds and costs.

Therefore, the present paper analyses actuators based on SMAs. These can be distinguished from conventional actuator principles by a high power density, a simple design and a silent actuation. Furthermore, SMAs provide the implementation of different movement types according to their design.