Title (en)
APPARATUS AND METHOD FOR CHARGING AND DISCHARGING A CAPACITOR TO A PREDETERMINED SETPOINT

Title (de)
VORRICHTUNG UND VERFAHREN ZUM LADEN UND ENTLADEN EINES KONDENSATORS AUF EINEN VORBESTIMMTEN SOLLWERT

Title (fr)
APPAREIL ET PROCEDE DE CHARGE ET DE DECHARGE D'UN CONDENSATEUR JUSQU'A UNE VALEUR DE CONSIGNE PREDETERMINEE

Publication
**EP 1547233 A1 20050629 (EN)**

Application
**EP 03794449 A 20030730**

Priority
- US 0323751 W 20030730
- US 40846802 P 20020905

Abstract (en)
[origin: WO2004023636A1] An apparatus using electrically stimulated smart material requires a power source to stimulate the material. This power source has three main functions, (1) to apply a known voltage potential across the smart material, (2) to convert from the control voltage to a level suitable for the smart material, and (3) to regulate the voltage based on a control input. The power source is a DC to DC converter with special properties achieved by supplying a variable stimulating voltage or actively discharging the actuator. The circuit also provides a dead band, or hysteresis, between the charge point and discharge point. When this circuit is applied with a proportional, mechanically leveraged smart material actuator, a general-purpose industrial actuator becomes a cost-effective solution.

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IPC 8 full level
**H01L 41/04** (2006.01); **H02M 3/335** (2006.01)

CPC (source: EP)
**H02M 3/33507** (2013.01); **H02M 3/3353** (2013.01); **H02M 3/33576** (2013.01); **H02N 2/0075** (2013.01); **H10N 30/802** (2023.02)

Citation (search report)
See references of WO 2004023636A1

Citation (examination)
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- US 5130598 A 19920714 - VERHEYEN MICHAEL R [US], et al
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DOCDB simple family (publication)
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DOCDB simple family (application)
**US 0323751 W 20030730**; AU 2003257010 A 20030730; CA 2495486 A 20030730; CN 03820972 A 20030730; EP 03794449 A 20030730; JP 2004534255 A 20030730