

Title (en)

VEHICLE STEERING SYSTEM OF THE BY-WIRE DESIGN TYPE

Title (de)

FAHRZEUG-LENKSYSTEM DER BY-WIRE-BAUART

Title (fr)

SYSTÈME DE DIRECTION DE VÉHICULE DE TYPE À COMMANDE ÉLECTRIQUE

Publication

**EP 2271538 A1 20110112 (DE)**

Application

**EP 09737788 A 20090402**

Priority

- EP 2009002408 W 20090402
- DE 102008021973 A 20080502

Abstract (en)

[origin: WO2009132744A1] The invention relates to a vehicle steering system of the by-wire design type, which lacks any mechanical linkage between a steering wheel and a steering transmission, an actuator controlled by an electronic control unit being installed ahead of said steering system, comprising a hydraulic fall-back level with a hydraulic feed unit coupled to the steering wheel and a hydraulic control unit coupled to said steering transmission, said hydraulic feed and control units able to be connected together by way of two hydraulic lines in such a way that when the actuator is non-functional, a steering wheel angular rotation is switched to a corresponding wheel steering angle by way of the hydraulic feed unit and the hydraulic control unit. The hydraulic lines can be connected by way of a switchable steering valve that is designed as a proportional valve with a flow cross section that is substantially continuously adjustable between the two extremes "completely closed" and "completely open". The steering valve is also not in its completely open position when the actuator is functional, but is held in the closed position or brought to a partially open position when the substantially fixed association between the steering wheel angular rotation and the wheel steering angle is to be suspended. The actuator is controlled in such manner, at least when the steering valve is completely closed, that a desired hand torque at the steering wheel, said torque able to be sensed by the driver, adjusts for the respective steering process.

IPC 8 full level

**B62D 5/04** (2006.01); **B62D 5/00** (2006.01); **B62D 6/00** (2006.01)

CPC (source: EP US)

**B60R 25/021** (2013.01 - EP US); **B62D 3/14** (2013.01 - EP US); **B62D 5/003** (2013.01 - EP US); **B62D 5/005** (2013.01 - EP US)

Citation (search report)

See references of WO 2009132744A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

**DE 102008021973 A1 20091105**; CN 102015415 A 20110413; EP 2271538 A1 20110112; US 2011094820 A1 20110428; US 8162095 B2 20120424; WO 2009132744 A1 20091105

DOCDB simple family (application)

**DE 102008021973 A 20080502**; CN 200980114039 A 20090402; EP 09737788 A 20090402; EP 2009002408 W 20090402; US 91693810 A 20101101