Intelligent Hydraulic Steering Assist - iHSA®

The patented and award-winning iHSA® (intelligent Hydraulic Steering Assist) by tedrive Steering Systems GmbH for the first time enables the incorporation of driver assistance systems into hydraulic steering systems of vehicles with high axle loads. The innovative iHSA® system facilitates a wide range of driver assistance functions, including active lane keeping, crosswind compensation, city mode, trailer stabilization, nibble compensation and joystick maneuvering now also for commercial vehicles and buses.

The iHSA® module includes a rotary valve, wherein the valve sleeve can be positioned by an electric actuator independently of the driver‘s steering movements. In this way the steering assistance is varied and a torque overlay at the steering wheel is enabled. The electric actuator for positioning of the valve sleeve is designed as a three-phase permanent magnet synchronous motor with a maximum power of 100W and is controlled via power stages of the PUMA-PTM. The mechanical connection of the motor to the valve sleeve is done by an accordingly dimensioned gear unit.

Truck Rack and Pinion Steering System with iHSA® Module

Truck Recirculating Ball Steering with iHSA® Module

The powerful microcontroller of the PUMA-PTM ECU enables the execution of the entire iHSA® functional software next to the control of the electric motor. Here, in addition to the commutation sensor for the electric motor, also more sensors for steering angle and steering torque are read in inter alia via the digital SENT interface and evaluated directly by the interface driver provided by the PUMA-RTI. In this way, the functional verification of the hydraulic steering assist iHSA® succeeded in a very short time in the test vehicle without additional hardware components.

adcos GmbH
Zollstockgürtel 67
50969 Cologne
Germany

+49 (0)221 / 16 80 59 – 0
+49 (0)221 / 16 80 59 – 49
info@adcos.de
www.adcos.de