

Electronics for a hydrostatic machine

Application example

Driving control with ABS for a sweeping machine with a hydrostatic drive and a hydraulic braking system



On the one hand when revising the design of a sweeping machine the task of its internal electronics is safety at high driving speeds during transport operation and on the other hand the assurance of precision and operator comfort when working in sweeping mode.

The newly developed solution from Völkel Mikroelektronik consists of two independent electronic control systems. They communicate with each other via a CAN bus and thus converge, forming a powerful complete system.

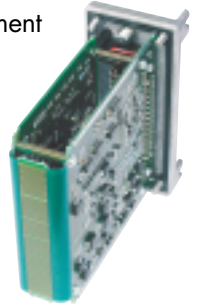
Functional security is achieved with the help of wide-ranging hardware and software measures. Each of the control systems is equipped with an additional safety controller, including independent cut off means and return measurement channels.

The innovative control system – driving control with ABS – can generally be transferred to other mobile machines.

The electronic system has the following major functions:

Driving control

- Diesel management using the J1939 CAN bus protocol
- Optimal decrease of power due to load limit sensing controls combined with minimal fuel consumption and minimal noise development
- Speed regulator
- Continuous torque during the acceleration phase and torque increase for mountain driving
- Linear, hydrostatic brake reaction using brake pressure regulation and diesel rev limitation
- Fine steering mode when sweeping
- Anti-slip control unit, ASR



Anti-skid system ABS

- Individual wheel regulation (4 regulation channels) using proportional valves
- Yawing moment communication delay
- Load dependent brake pressure regulation
- Limitation of brake performance of the hydrostatic drive



Service and Diagnosis

The additionally available PC program ConDoc® supports diagnosis, service and data reading out of the error memory

