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we develop customized solutions from idea to production and beyond.

Project details: battery powered low voltage converter with SiL-2 wireless networking

Industries

- Mechanical Engineering, Propulsion Technology

Technology fields

- Propulsion Technology, Software Development, Bus Systems and Radio; Measurement, Control and Regulation Technology

Project requirements

- The aim of the project was the development and production of engine and device control for a Mobile Column Lift in various deployments and environmental conditions. A particular challenge is the suitability for especially heavy loads, but also the everyday operation of garages or breakdown services under changing environmental influences. The individual columns of the lifting platform are both, wireless with battery and SIL-2 compliant communication via radio, as well as stationary operated with power supply and CAN bus. Due to the necessary electronic synchronization control in uneven load distribution and to the applicable safety monitoring of the possibly radio-operated system, the functional safety of the composite poses a major challenge. In battery mode is a simultaneous operation of up to eight columns, in network operation of up to twelve columns possible. Each column is equipped with an operating element.



Facts / Highlights

- Spray and condensation-proof control technology and supply unit
- Functional safety SIL-2 (IEC 61508) even with wireless networking of pillars
- Power supply via battery (48V DC), possible motor currents up to 100A.
- Networking via CAN-bus or radio

Services of KNESTEL

- Potential analysis, target price estimate, project management, requirements specification, project planning, development of software and hardware, electrical construction, EMC testing, prototyping, serial production

Possible applications

- Autonomous, battery-powered systems
- Mobile lifting and transport vehicles
- Electric drives of all kinds