

Compact MINI FREQUENCY INVERTER with phase detection



for propulsion technology, mechanical engineering

Technology field

MCR technology, power electronics

Project requirements

The **project objective** was the development and production of a frequency converter for the drive unit of a ventilation flap control system. The drive train consists of the FI and an asynchronous machine (ASM) without rotor position feedback. The electronics are located in a modified terminal box of the motor. The direction of rotation is determined by which terminal the mains voltage is applied to ensure downward compatibility with previous types. The end position detection is done by external mechanical or electronic limit switches, which can be connected directly to the frequency converter. Furthermore, a digital input is available for a fast run function. A programming interface is available for software updates, via which the logic part of the frequency converter can alternatively be supplied with voltage without the power part being active.

Facts/Highlights

- Small and compact, mounting directly on the motor
- Decentralized installation
- Phase detection (direction of motor rotation)
- Designed for 500 W - 1000 W
- Limit switch directly connectable to FU

Services of KNESTEL

Potential analysis, target price estimation, project management, specifications, project planning, development of software and hardware, electrical and mechanical design, EMC test, prototyping, series production

Possible Applications

Wherever it makes sense to integrate the FI into the motor, e.g. building automation or intralogistics

About KNESTEL: Knestel has been developing and producing customized electronic and mechatronic special solutions in the fields of motor and machine control, frequency converters, image processing, MCR technology, software development, radio, bus systems and gas analysis for 40 years. We support our customers from the idea to the finished implementation. Individual solutions and concepts - technically up to date. Our production - electronics manufacturing, device and switch cabinet construction, Production of subassemblies, assembly and mechanical processing - is equipped with the latest technology.