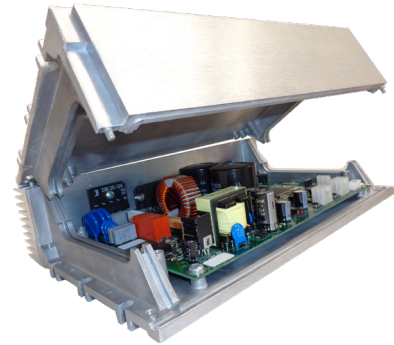


DUAL FREQUENCY INVERTER

**DUSTPROOF
FANLESS
POWER FACTOR CORRECTION**



for propulsion technology, engineering

Technology fields

Propulsion technology, MCR technology, bus systems and radio, CAE

Project requirements

The **project objective** was the development and production of a highly efficient, speed and torque stable (vector control), fanless double frequency inverter with 1 kW continuous power and 50% overload capacity per motor. Also noteworthy is the rough application area (including dirt, conductive dust) as well as the additionally integrated periphery (sensors, actuators, stepper motor, bus connection). The converter can be operated on 230 V AC mains and can be optionally equipped with a PFC (Power Factor Correction).

This enables lower mains feedback and also the wide voltage range (90V-264 V) to be realized.

Facts/Highlights

- PFC: Power Factor Correction
- Fanless, completely sealed
- Synthesis of different drive technologies
- High price advantage over standard converters
- Low training effort for service staff due to compact operating software

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

- Motor control: highly accurate, efficient e-drive
- DC, BLDC (Brushless DC), EC, 1~AC, asynchronous three-phase machines, permanently excited synchronous Machines
- Power range: a few watts to several 100 kW
- Voltage range: DC low voltage (e.g. 24 V), 230 V AC to 660 V AC
- Engine and component simulation: Electric motor is realistically represented in a real-time simulation in software via an engine simulation model
- Battery simulation: for this purpose, battery technologies are simulated in a real-time simulation via a battery simulation model realistically reproduced

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.