



„A solution for cooling semiconductor frequency converters with high demands for the aviation industry? **That's when I called Elektrosil.**“

Electronic cooling for aircraft ground power units: We have developed a cooling solution that meets the high demands placed on the electronics of power supply units on the airfield or in the hangar.

THE CHALLENGE

Aircraft are connected to a ground power unit (GPU) to supply power on the ground. This can significantly reduce the running times of the noise-, emission-, fuel- and maintenance-intensive auxiliary power units.

The manufacturer of a modular GPU system needed a cooling solution for the semiconductor frequency converters installed in it, which generate the required voltage of 270 V and 400 Hz. The solution had to meet high standards of efficiency, protection class, reliability and operating temperature.

THE SOLUTION

We developed a customized solution for two 92 mm fans and determined the optimum operating point in conjunction with the heat sinks installed in the device and the requirements for performance, protection class and temperature resistance. The intelligent control efficiently adjusts the fan speed to the cooling requirement – reliably at both +50 °C and –40 °C.

The inverter module is reliably kept at an optimal temperature. Improved air flow minimizes performance

losses and increases efficiency. The solution seamlessly integrates into the customer's modular system. The robust fans can permanently withstand even extreme conditions and, thanks to the well-thought-out design, the noise level remains below 65 dB.

The result: a reliable solution that the customer was able to integrate into its modular frequency inverters and that meets the strict criteria for use on the apron and in hangars.

OUR STRENGTHS

- Expertise in fan design
- Development of reliable solutions
- Development of innovative electronics
- Integration into the customer's product

Are you also looking for a custom-fit solution for your system and a competent partner? Then give us a call: +49 40 840001-0.

Project information

- Client: European industrial company
- Industry: Aerospace industry
- Product areas: Cooling solutions
- Services: Development & production

Elektrosil's services

- Application consultation, development assistance, design-in support
- Quality assurance
- Engineering and production
- Completely customised applications