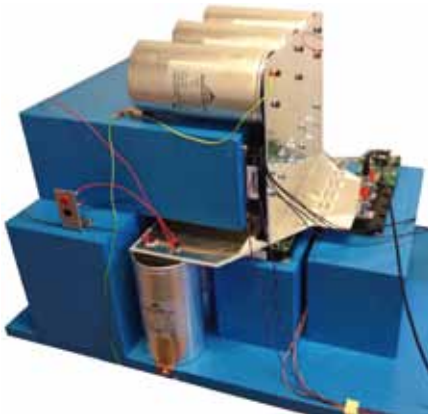




## AALBORG UNIVERSITY



A non-destructive tester for high power

### Highlights in Power Electronics at Aalborg University

- Power electronics is one of the strategic research and education areas at Aalborg University
- Multi-disciplinary research programs on efficient and reliable power electronics
- 7 full professors, 6 associate professors, 1 part-time professor, and 2 adjunct professors.
- 60+ PhD students; 20+ postdocs and research assistants; 20+ visiting scholars; 3 in-house company divisions

### Key Research Areas

- Reliability of power electronic components, converters, and systems
- Renewable energy applications (e.g., wind turbine systems, photovoltaic systems)
- Power electronics based power systems
- Power module packaging
- Automotive and industrial drives
- Microgrids and smart grids

### University-Industry Collaborations

The power electronics research at Aalborg University places great emphasis on national and international collaborations with peer universities and companies. A recent example is the establishment of two strategic research centers, the Center of Reliable Power Electronics (CORPE, [www.corpe.et.aau.dk](http://www.corpe.et.aau.dk)) and Intelligent and Efficient Power Electronics (IEPE, [www.iepe.et.aau.dk](http://www.iepe.et.aau.dk)), in collaboration with Danfoss, Grundfos, KK Wind Solutions, and Vestas, with a research budget of 25 million Euros.



1 MVA power stack. IGBT modules.

### A Unique Education Model and PhD/Industrial Course Portfolio

The power electronics program strives for the highest excellence in education to produce exceptional candidates who are highly educated in power electronics. The education of undergraduate and master students is based on a unique Problem-Based Learning (PBL) model implemented at Aalborg University since 1970s. For PhD education and also for the benefit of industrial companies seeking state-of-the-art research results, a number of

PhD/industrial courses are given every year, which is open to the public worldwide.

### Lab Facilities

Power electronics laboratories with world-class facilities have been built up in the last 20 years at Aalborg University. A list of the laboratories in power electronics and its applications is given below:

- Advanced Electric Machine and Drive Laboratory
- DC Microgrids Laboratory
- Flexible Drive Systems Laboratory (FDSL)
- Fuel Cell and Battery Systems Laboratory
- Grid Integration Laboratory (GIL)
- Medium Voltage Laboratory (up to 20 kV / 2 MVA testing capability)
- Intelligent Microgrids Laboratory (iMGL)
- Photovoltaic Systems Laboratory (PVLAB)
- RTDS Laboratory
- Smart Energy Systems Laboratory
- Vehicle and HeavyLab
- Reliability Testing Laboratory



Multiple power electronics converters based energy processing system.