

CUSTOMER REFERENCE

BES/2020/004



AEG POWER SOLUTIONS EQUIPS THE MICROGRID LABORATORY EMULATOR OF PADERBORN UNIVERSITY

The Competence Center for Sustainable Energy Technology (KET) at Paderborn University, under the leadership of the Department of Power Electronics and Electrical Drive Technology (LEA), is developing the infrastructure with which the behavior of power system such as battery storage systems, wind turbines, photovoltaic systems or combined heat and power plants can be emulated in the laboratory. The microgrid emulator will provide a test environment to emulate up to 16 energy system components. These can act as power source or consumer and will be programmed individually as rectifier or inverter via a rapid control prototyping system (RCP). The whole system can emulate a total power of 2 MVA. External loads can also be integrated in the setup to study their behavior under certain grid conditions.

Paderborn University and AEG PS worked closely together – trusting AEGPS’ expertise to engineer and customize the systems for the emulator project. The reliability of the systems is key for the project to achieve accurate simulation results. The solution delivered comprises 8 customized UPS systems based on the reliability proven Protect UPS series. The added rapid control prototyping systems will let each UPS system behave as inverter and/or rectifier to emulate up to 16 different components. Further AEGPS’ flexible [Convert SC Flex](#) - usually used as storage converter with on- and off-grid capabilities – will connect the emulation environment to the public power grid.

CUSTOMER INFORMATION

End customer Paderborn University, Germany

PROJECT DETAILS

Location Germany

Application Microgrid Emulator

- 2 MVA capacity
- Emulation of up to 16 energy systems components

Products AEG PS 8 x Customized Protect UPS
1 x Convert SC Flex converter