Institute of Electrical Power Systems
in cooperation with FF TU Graz

Bachelor Thesis

Requirements for emergency power supply in practical firefighting operations

Situation and motivation

Emergency power generators are in practice operated by fire fighters, who are usually not electrical engineering specialists. Various grounding concepts are specified by the manufacturers. The protective effects of proper and improper installation of the grounding for various fault conditions shall be considered. The focus is on the emergency power operation in the event of a fault and the related personal protection. The theoretical background will be evaluated and verified using selected field and laboratory measurements.

Tasks in the scope of the thesis

- Research of technical documentation of different manufacturers
- Analysis of the relevant operating modes
  - stand-alone operation for fire fighting equipment
  - stand-alone operation for emergency power supply
- Consideration of the relevant protection concepts
  - perating principle
  - Requirements
  - Relevant practical limits (e.g. cable length)
  - Concepts for verification in practice
- Field and laboratory measurements

Organizational

This work is accomplished at the Institute of Electrical Power Systems, the subject is worked on in cooperation with the "Freiwillige Feuerwehr TU Graz" (Volunteer Fire Brigade TU Graz).

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