OPENAMPERe

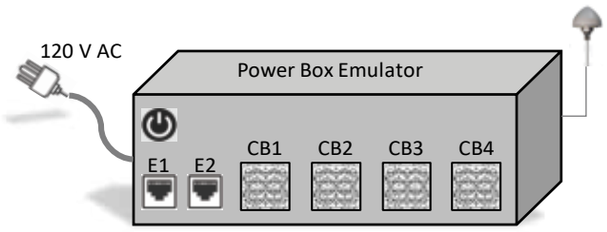
A cooperation between ITI & Powerspec Inc.

INNOVATIVE~FLEXIBLE~COMPACT

an extensible telemetry generation and playback tool for research and training

The OPENAMPERe Power Box

Is a compact (6U), low voltage, low power substation emulator that can generate three phase telemetry, breaker control, and status along with programmable binary inputs and outputs with different modes of opperation



FOUR BREAKER CONNECTIONS CONSISTING OF

- Analog Voltage Signals: VA, VB, VC, VN, VS
- Analog Current Signals: IA, IB, IC, IN
- Binary Outputs:
  - Breaker Status
  - Programmable output
- Binary Inputs:
  - Breaker Close Control
  - Breaker Open Controls
  - Programmable Inputs

EXAMPLE USE CASES

Manual Control

Manual, user-defined, unbalanced
Operator manually defines output command line or graphic user interface. Can be used to create data sets or test hardware configurations.

Externally Controlled

Externally controlled, time-varying, unbalanced
Input data comes from previously recorded data, or data sets obtained from external sources such as network captures and is replayed to the precision of the recording. Can be used for repeated experimentation in the lab environment or for training that requires reliably recreated scenarious.

Simulator Controlled

Power system simulator controlled, time varying, time synchronized, unbalanced
Input data is generated by a simulation or other external tool enabling HIL experimentation with sophisticated software models.

OpenAMPERe Was designed and created by researchers at the information Trust institute (ITI) at the University of Illinois and will be made available to you by Powerspec Inc.

Please visit https://go.illinois.edu/openAMPERe for additional information. Contact Powerspec Inc. for availability and pricing.

Distributed Control

Self-standing distributed state estimation (DSE) based, time-varying, time synchronized, unbalanced
Multiple OPENAMPERe systems work together to simulate a micro grid and use consensus and distributed state estimation algorithms to generate realistic telemetry data.

- Flexible open source library
- Programming language agnostic
- Out of the box web interface and windows program included

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