

EX2100e and EX2100 Excitation Controls Comparison

fact sheet

The EX2100e Excitation system is GE Energy's advanced platform for generator excitation controls. The EX2100e builds on the EX2100 experience of over 700 units in gas, steam, and hydro applications (for new units and upgrades) in addition to GE's 50 years of experience with over 6,000 excitation systems in 70 countries.

The EX2100e has enhanced technology, including a new controller from the Mark* VIe control line and the current ControlST* software suite. In addition, the EX2100e offers a 35A brushless dual redundant regulator option for cost effective reliability.

Controllers

Now, excitation shares the same controller with Mark VIe application-based turbine and plant controls. These single-board controllers offer flexible, compact packaging and more computing power for advanced control features to enhance grid dynamics and generator performance. In addition, the stand-alone controllers can be easily upgraded for better life-cycle support of the equipment.

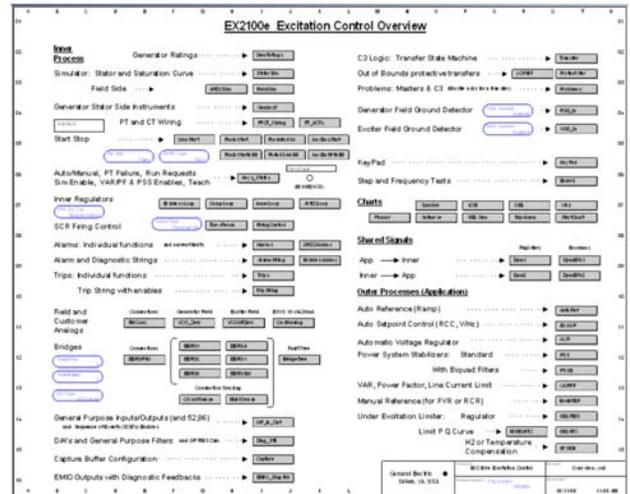
I/O Interface

The controllers communicate to the I/O interface through a 100 MB Ethernet I/O network that can be extended for remote I/O modules. The large, inflexible I/O cables of the EX2100 are eliminated. Since there are less electronics in an EX2100e, a smaller spare parts inventory is needed. Similarly, less active electronics increases the mean-time-between-failure (MTBF) and improves system reliability.

Controllers, I/O interface, and the bridge(s) are mounted inside the EX2100e cabinet. Only an optional touchscreen panel remains on the door for local control and display of generator parameters along with alarm history and alarm/fault help.

Software

The EX2100e uses the ToolboxST* application for configuration and diagnostics and retains all attributes for high-speed analysis of rotating machinery and the enhanced look-and-feel of plant-level Distributed Control System software. For example, the ToolboxST application can analyze and configure I/O modules, controllers, networks, and operator stations for generator controls, turbine controls, and balance-of-plant controls to simplify maintenance.



User-friendly Configuration Tools

Proven Technology

While controllers, networks, I/O modules, and software tools are upgraded, the heart of the system remains the same. Proven control and protection algorithms remain unchanged. Similarly, mission-critical power bridge technology is carried over from the EX2100 power conversion assemblies.

In addition, control cabinet footprints are unchanged and compliance to international regulations and standards is retained.

Benefits

- Cost effective 35A brushless dual redundant regulator configuration
- Improved reliability and less spare parts inventory
- Less maintenance and on-going training costs with common software tools
- Better life-cycle support with more compute power for upgrades and simplified controller replacement
- Risk mitigation of new technology with proven algorithms and power bridges

For further assistance or technical information, contact the nearest GE Sales or Service Office, or an authorized GE Sales Representative.

