

EX2100* SCT-PPT Exciter Retrofits

Upgrade your plant's existing excitation control system to GE Energy's state-of-the-art EX2100* system, in less time and at a lower cost than you may have thought possible.

The EX2100 SCT-PPT is a retrofit package that enables customers with SCT-PPT excitation systems, typically installed on gas and steam turbine-generators built in the 1970s to 1980s, to upgrade to a fully digital excitation platform. GE Energy provides a wide range of modernization options, from replacing just the voltage regulator, to changing out the voltage regulator and the SCR (thyristor) bridge, and to performing a complete compound excitation system upgrade, including the power magnetics (SCTs, PPT, and linear reactors). Customers can upgrade to a state-of-the-art control platform and protective functions, while meeting reliability, outage duration, and budgetary goals. A unique capability over our competitors, GE Energy can supply the EX2100 in a compound configuration to allow the retention of the performance benefits inherent in the compound source excitation system. Because the EX2100 can also be installed in a potential source configuration, GE can consult with you to determine the "right" solution – not simply a one size fits all offering.

A dependable, high performance excitation control system is a key component of successful power plant operation. The combination of dedicated engineering, professional project management and installation services, and world-class hardware make GE Energy the single source for your entire project. Learn how the range EX2100 SCT-PPT upgrades may be your path to improved reliability and enhanced operating profits.

Product Highlights

- Voltage regulator, partial compound, or full compound retrofit packages
- Flexible approach with software and hardware options now and in the future
- Simplex or triplex controls redundancy
- Simplex or redundant power conversion modules
- Advanced software features, such as power system stabilizer (PSS)
- Variety of operator stations available with access to all excitation data
- Microsoft** Windows**-based software tools for configuration, diagnostics, trending, recording, and export

Architectural Highlights

- Regulators: up to 280Vac, 35A
- Compound source: up to 1,000Vac, 2,300A
- 10/100MB Ethernet at all levels
- Remote communication links
- Online download capability without rebooting controller(s)
- Online repair of controllers and fans in redundant systems
- 1ms SOE time stamp



fact sheet

Functionality & Reliability of a Modern Control System

The EX2100 excitation control system is GE Energy's latest control offering for steam, gas, and hydro exciters. A flexible system to meet today's excitation challenges, the EX2100 can be customized with simplex or triplex modular redundant controls, simplex or redundant power conversion bridges (from 20 to 8000 amps), and advanced software features, such as a Power System Stabilizer.

Upgrade benefits include: eliminated thermal drift and analog control alignments; enhanced operational modes, alarm management, and advanced protective functions; and, increased availability of spare parts. Existing operator controls can be retained, replaced, or augmented with a variety of color touch-screen operator stations, or integrated into an existing turbine control or plant-wide control platform.

Set-up and troubleshooting are simplified with the user-friendly, Windows-based, ToolboxST* maintenance and configuration tool. Advanced features, including self-diagnostics, active system graphics and schematics, programmable trend recorders, and high-resolution oculo-graphy deliver a broad range of excitation and generator data at your fingertips. Additionally, flexible communication architectures enable connectivity to other plant controls systems through standard protocols and connections.

Increase the reliability and stability of your generator with GE Energy's EX2100, while minimizing cost and installation time. Contact GE Energy today to learn more about the EX2100 SCT-PPT Retrofit.

Typical Software Functions

- Automatic and manual voltage regulators, reference adjusters, and reference followers
- Volts per hertz limiter
- Online and offline over and under excitation limits
- Reactive current compensation
- PT fuse failure detection
- Generator field temperature calculation
- Operator control simulation
- Power System Stabilizer (PSS)
- Protective functions
- Automated testing functions



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