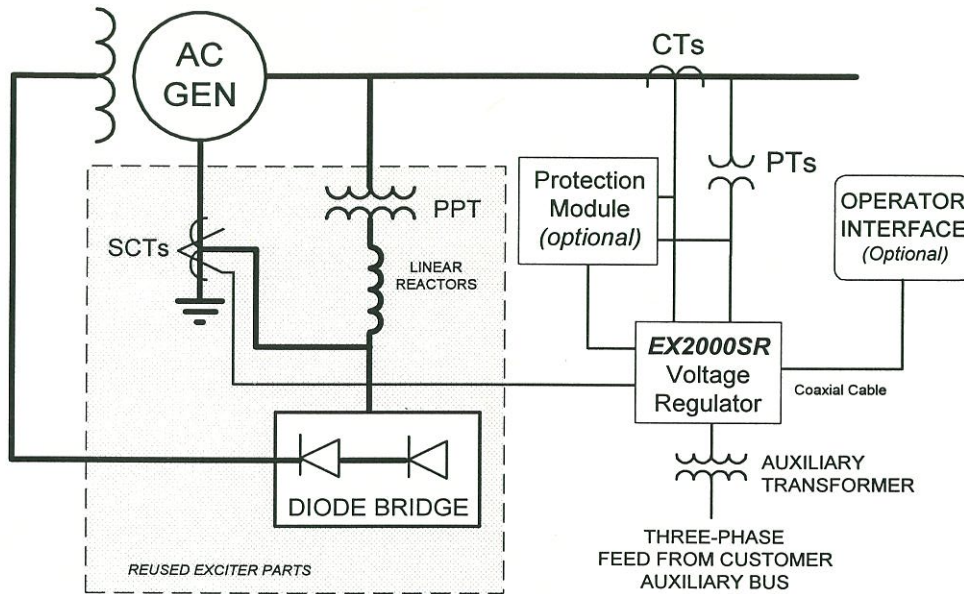




EX2000SR SCT-PPT VOLTAGE REGULATOR

Fact Sheet for Retrofit Applications



EX2000SR Simplified One-Line Diagram

The EX2000SR is a digital, static, voltage regulator for SCT-PPT exciters, utilizing the latest hardware and software technology. To meet customer and operational requirements, a full range of control and protection functions are available for the product.

Benefits of EX2000SR

- 99.98% Availability
- Replaces Old and Failing Components
- Full Digital Design
- Improved Performance
- Sustained Fault Current Support
- Meets IEEE 421 Guidelines
- Built-in Diagnostic System
- Faster System Checkout
- Reduced Maintenance
- High Degree of Accuracy, $\pm 0.25\%$
- Configurable with a PC

The EX2000SR system comes equipped with a full-wave, thyristor bridge which supplies excitation power to the control winding of the SCTs. In addition, all control and protective functions are implemented in the system software. There are no moving parts, such as motor operated setpoint adjusters, as are found in the older excitation systems. Digital technology coupled with over 35 years of GE static exciter design experience allows the EX2000SR to maintain 99.98% availability.

Standard Features & Functions

- Three-Phase, full wave SCR bridge
- Thyristor bridge circuit filtering
- Diagnostic display panel
- AC Input Circuit Disconnect Switch
- Field Suppression Circuit (41S)
- Over Excitation Limiter (OEL)
- Automatic Voltage Regulator (AVR)
- AVR Software Reference Adjusters
- Manual Voltage Regulator (FVR)
- FVR Software Reference Adjusters
- Bi-directional AutoTracking Function
- High Speed Inner Field Voltage Loop
- Volts per Hertz Limiter (V/Hz LIM)
- Reactive Current Compensation (RCC/ARCC)
- Internal Control power supply
- Three Phase Voltage Sensing
- Two Phase Current Sensing
- Output DC Field Contactor
- 100 millivolt shunt for SCT control winding
- 4-20 mA Programmable Analog Outputs
- Strip Heaters
- Auxiliary Transformer
- NEMA-I Enclosure

Optional Features & Functions

- Power System Stabilizer (PSS)
- Volts per Hertz Protection (24G)
- Over Excitation Protection (OLOT/OET)
- Under Excitation Limiter (UEL)
- Sensing PT Failure Detector (PTFD)
- Field Ground Detector (64F)
- VAR/PF Controller
- Voltage Matching
- Field Temperature Calculation
- Data Link with GE's MARK V Turbine Control
- Independent Protection Module with:
 - a. Volts/Hertz (24G)
 - b. Generator Overvoltage (59G)
 - c. Off-Line Overexcitation (OLOT)
 - d. On-Line Overexcitation (OET)
 - e. Loss of Excitation (40)
 - f. Exciter Phase Unbalance (EUT)
- Digital Operator Interface
- Monitoring and Trending Software
- PLC-based Digital Interface
- Installation Design Engineering Package
- PSS Tuning Study

Product History

The first EX2000 exciter was shipped in April 1993. Since that time an average of over 120 units per year have been shipped between retrofit and new unit applications. This unprecedented volume is a strong indicator of the products' market acceptance and dominance.

Applications

- Steam Turbine Generators with SCT-PPT excitation system
- Gas Turbine Generators with SCT-PPT excitation system

EX2000SR Retrofits

- Replaces SCT-PPT Regulators
- Eliminates 70P and 90P MOVAs
- Improved Protection Functions
- Improved System Response

EX2000SR Enclosure Information*

Configuration	Width	Weight
Simplex	24"	1,500 lbs
Simplex with Protection Module	48"	2,000 lbs

* All enclosures are 90"H x 20"D

