



Rotating Machines Control services

Our value

GE Power Conversion offers customers top rotating machines controls performance for their products manufactured and installed base.

We can also extend such value to your 3rd party controls such as :

- Industry leading digital technology that will maximize unit performance and lower operation costs.
- Flexible architecture, modern networks and versatile software suites, to simplify operations and integration with plant level controls.
- Built-in HMI, powerful diagnostics and control simulators to support rapid installation, tuning of settings and staff training.
- Advanced algorithms and the latest control technology designed to improve performance.
- Fast installation and start up due to factory customized setup.
- Product life cycle support with the ability to perform conversions, modernization & upgrades.
- 24/7 technical support to help resolve issues in the shortest time possible ensuring minimum down time.
- Turnkey rotating machine controls servicing and lifecycle management programs, which can be easily fulfilled during your rotating machines outages, reducing costs.

Full life cycle services for your Automatic Voltage Regulators and motor controls

GE Power Conversion has designed, built and commissioned thousands of electrical generators and motors, including all controls and protections required for these units to perform their duty. At GE, we do not only build the Automatic Voltage Regulators (AVR), motor controls and protection relays that drive your electrical rotating machine, but we also support them throughout the whole product life cycle. Our field experts are best positioned to perform inspections, maintenance and service upgrades with minimal system disruption.

As a full-scale OEM with fleet knowledge and deep engineering expertise, we are your partner of choice for inspecting your controls, performing upgrades on them and completing any retrofits or replacements for those who would be nearing end of life. Beyond offering our own AVR products in the market, we've complemented our portfolio by establishing key partnerships in the industry, to make sure we can provide you with the best solution adapted to your requirements.



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Electrical rotating machine controls inspection program

As resilient and precise as current digital technology can be, electrical rotating machine controls and protections (AVR, motor controls & protection relays) need maintenance. Over their lifetime, instrumentation calibration derives, electronic wear evolves, embedded digital memories corrupt, capacitive batteries lose power and dirt & wildlife can nest in the circuits and damage components. A healthy inspection program can avoid or correct such issues, extending the control system lifetime.

We will provide you all required insight on your system health and best actions to extend its lifetime:

- At every minor inspection (every 1-3 years): we will conduct an expert visual inspection for defects or abnormalities, as well as a functional check and overall readings review.
- At every major inspection (every 4-6 years): on top of minor inspection tasks, we will perform a full functional check of control and trip levels (secondary injection).
- With each long-term change of rotating machine operating regime or hardware: we will review control and protection set points (and functional check).

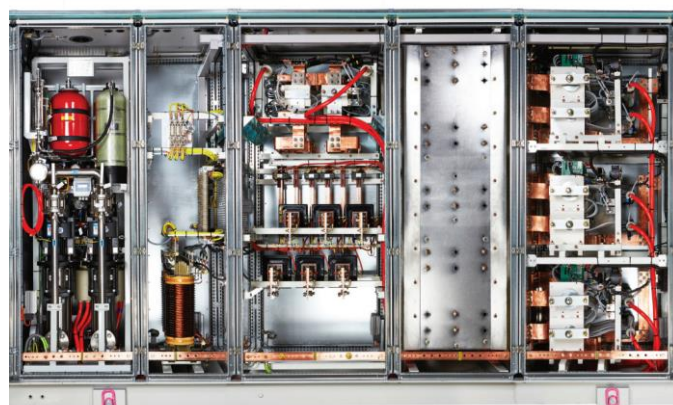
At the right time based on unit health status, we will recommend you best alternatives for unit upgrade, retrofit or replacement.

Replacements & upgrades

With all maintenance activities in place, still digital technology pace of improvement will eventually leave these systems obsolete in comparison to newer technologies. Upgrading, retrofitting or replacing these controls will ensure the rotating machine performs at best output and response levels.

Core products

- EX2100e (GE Gas Power – partnership Jan/2017)
- DECS250 (Basler Electric – partnership June/2022)
- ESP1 motor controls
- ACBEX
- Stat-X-Ator
- Quad-control
- Protection relay builds
- Special application AVR





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Obsolete & post-production support products

GE Power Conversion, being over a century in rotating machines market, has provided a number of unit control systems, in different lifecycle status. Our rotating machines are long-lasting products, standing for decades. Therefore, we are deeply committed to support customer managing the lifecycle and transition of such technologies, as we focus on solutions with improved monitoring capabilities, control options, flexibility of operation and performance on duty, while the service support on the older units slowly fades.

Replacements & retrofits: GE Power Conversion will inform customers of their lifecycle status and recommend the most suitable and cost-effective options for your processes. It is recommended to consider upgrading legacy AVR systems to current GE generator and motor control technology, to ensure servicing availability, as well as to benefit from latest technology superiority over older designs.

- Improve reliability
- Enhance performance
- Reduce risk of unplanned outages
- Achieve better availability and enhance productivity
- Improve serviceability
- Longevity of product life

Other services

Even though availability restrictions, longer lead times and costs are expected, GE Power Conversion will strive to offer:

- Suitable spares or equivalents, while such components are commercially available, during transition time.

- Technical support and onsite engineering services, as far as expertise can be preserved.
- GE Power Conversion service rotating machine controls manufactured by ourselves, as well as those from our closest partners.

These is the list of our top legacy regulators we service:

- B12/75
- C10/120
- C22/180
- DX21
- XCOM-20
- RVD
- Microstat
- EX2100 - Regulator type (GE Gas Power – partnership Jan/2017)
- DECS200 & DECS200N (Basler Electric – partnership June/2022)

Auxiliary C10 and DX21 modules:

- LC110 excitation limiter module
- MC15 manual control module
- FV200 excitation fault detector module
- FV223 diode failure module
- FYP54 auto synchronizer module
- FF100 VT fuse failure detector module
- FYC42 Check Synch Module
- HC15 Manual Control Module
- HC12 Manual Control Module
- FV211 Manual Control Module
- ST130 Static Voltage Trimmer
- FX45 Automatic Power Factor Control Unit