



MV7000 CONTROL UPGRADE

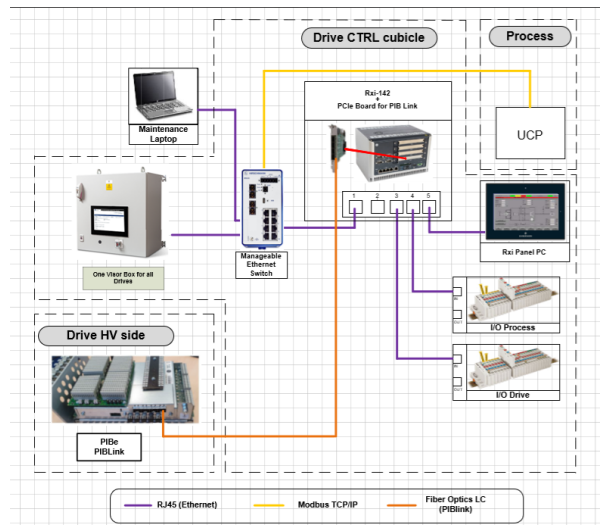
Extend the life of your drives by migrating to GE Vernova's Power Conversion latest control technology

Migrate to latest drives control technology of GE Vernova's Power Conversion business

Power Conversion has brought many developments to the field of MV drives and controls over several years. Through our upgrade programs, we bring new and improved features that help preventing the risk of obsolescence, cyber security breaches and deferring the cost of a totally new solution.

Upgrading the obsolete VME and B&R controller used on legacy drives to the latest RXi controller allows cyber secure remote access and improved diagnostics capabilities.

Applicability & Architecture



MV7

The RXi is the standard drive and industrial PC hardware for Power Conversion. Built with integrated digital and defense-in-depth cyber security capabilities, upgrading to this platform help to extend the life of your critical drives and the protection from cyber threats.

Modernizing your controls and data interfaces, substantially improves control capabilities, security and performance. The upgrading process requires minimum shut down time due to its modular design technology that enables quick restoration of your operations.

FEATURES

- High performance using modern multi-core CPU.
- Enhanced cyber security measures meeting IEC-62443 to protect customer's critical infrastructure.
- Latest industrial Fan-less controller with extended temperature operations.
- User interface with an intuitive HMI touchscreen for improved diagnostic and drive status monitoring.
- P80i software configuration tool for user friendly programming experience.



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KEY BENEFITS

- Mitigating obsolescence of the controller system with latest hardware and software, reducing unplanned downtime due to non-availability of Spare Parts for the vintage Controller system
- OPEX reduction and increased drive availability with latest Controller generation
- CAPEX savings and reduced shut-down time versus a full new drive replacement

GE Vernova's Power Conversion business advantages

- Better spare parts availability and breakdown support with the new RXi controller
- Improved inventory control by upgrading multiple vintage drives to the same modern hardware and software
- Easy connectivity to Power Conversion digital solutions for remote monitoring, diagnostics and predictive analytics
- Phased upgrade options to suit customer schedule and maintenance plans
- Consistent and cost-effective project execution by Power Conversion experts
- Further options can be combined with proactive mini upgrades and cyber services to extend existing drive systems lifetime and improve operations

CYBERSECURITY SOLUTIONS

We can help you secure the future

The breakout of Stuxnet malware – the world's first publicly known digital weapon – in 2010, dramatically changed how Operational Technology asset owners around the globe perceived cybersecurity.

Since that event, OT owners have recognized the need to effectively address rapidly evolving cyber threats to the industry. A successful cyberattack on the control system can result in mild to devastating consequences, including:

- Unplanned shutdown
- Remote Control of the plant process
- Damage to plant equipment
- Production impact and financial loss

Threat to on-site personal and general public

GEPC latest HPCi Controller has significant measures such as secure communication to protect against external threats & audit log and RBAC features to protect against internal threats and meets IEC62443-4-1, IEC62443-4-2 to SL1 & IEC 62443-2-4 to ML3.

The cybersecurity protective measures are intended to protect you on:

- Availability (of process and data)
- Integrity (of operation and data)
- Confidentiality (of data)



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Digital connectivity

If you are looking for ways to reduce downtime and enhance the performance of operations and assets, our new controller with inbuilt digital capabilities can help (Digital ready).

Maintenance+ APM for drives

Maintenance+ asset performance management (APM) for drives is a cloud based analytic tool that analyzes key performance indicators (KPIs) with predefined algorithms to provide early warning information of potential failures and helping operators thereby, to reduce unplanned downtime.

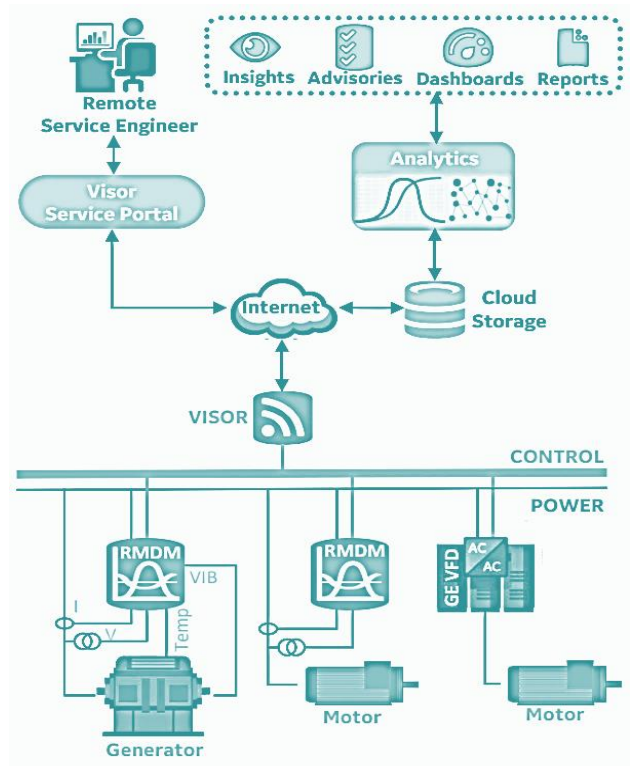
Services+ remote engineering

Visor remote monitoring & diagnostics (RM&D) system delivers on-tap expertise to remotely manage, update and check on the health of your assets.

Services+ cyber services

Enabling reduced exposure to cyber security vulnerabilities associated with software and connected systems.

Necessary I/Os and software configurations for VISOR upgrade will be installed and configured by GE experts during same shutdown along with controller upgrade.



Key Performance Indicators analyzed:

1. Electrical signal monitoring
 - Network side signals of the drive
 - Drive signals
 - Load/Machine side signals
2. Thermal signal monitoring
 - Machine side signals
 - Drive signals
3. Mechanical signal monitoring

CONTACT US

services.powerconversion@ge.com



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Proactive mini upgrades from Power Conversion

In addition to the main control upgrade, Power Conversion recommends the following proactive mini upgrades and system audits for improved reliability and hassle-free operation and maintenance.

- Cooling system audit to monitor and improve health of your drive's cooling system.
- Inclusion of humidity sensor to prevent your drive system from condensational flashovers.
- User-friendly HMI (touch panel) for better interconnected operation.
- EMC audit to improve the compatibility of your drive system for seamless operation.
- Pre-magnetizing transformer protection to improve the lifespan of your pre-magnetizing transformer and to limit unexpected blackouts.

You could choose to carry out the above upgrade individually in a phased manner or combine them with the control upgrade during a common shutdown window.

CUSTOMIZED SERVICE PROGRAM

Power Conversion offers bespoke service support in the form of spares and maintenance services aimed at supporting customers based on their unique needs.

Our services portfolio

- Spares and replacement parts.
- On-site troubleshooting and repair services.
- Retrofits, refurbishments and upgrades.
- Customized trainings at your site or at a GE facility.
- 24X7 remote support via cyber secured VISOR.
- Preventive "performance" (annual) maintenance.
- Preventive "major" (once in every three or five years) maintenance.
- Service agreements.

