



GE Legacy PLC Maintenance Guide

*Extending the Life of Your
Legacy GE PLC Systems*



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Extending the Life of Your Legacy GE PLC Systems

GE's Legacy systems are part of what make your factory floor so functional.

These systems were designed to last and despite being decades old, they still do their job. Our team at Qualitrol International is dedicated to helping your team stay on top of maintenance and to keep your Legacy systems going.

Systems such as 90-30, 90-70, Series Six, Series One, and Field Control can keep going with regular maintenance and minimal intervention. We've compiled this general maintenance guide of best practices to help you better maintain your Legacy PLC and maximize its lifespan.

Our expert technicians have over 50 years of combined experience with GE's Legacy controllers. Our knowledge, experience, and skills are here to help you efficiently handle problems once they've happened and to prevent future problems from occurring.

From the only factory-authorized repair center in the world for GE 90-70 components, we welcome you to our general maintenance guide for your Legacy GE PLCs.

Know What Parts You Need

Even your toughest Legacy system will experience failed components. While built to last, your system wasn't built to last forever.

Having the exact replacement component that you need on hand during a failure can make all the difference.

Better yet, you can replace your component, then get your original component repaired. This way, you have a future component in stock for the next replacement.

GE recommends keeping at least one of each component of your system in stock, especially those that tend to have high failure rates. For these parts, you can even go so far as to schedule a replacement before the failure so that you can make the most of your machinery.

Components that often need to be replaced include any component that generates heat, experiences heavy wear and tear, drives a current, or output modules.

Qualitrol makes it easy to know what parts you need to keep available. Our Risk Assessment does all the work for you and lets you know what's most needed in your factory stock. This way, you can have spare parts on hand to prevent a failure that could have been catastrophic.

Our Risk Assessment also evaluates other areas of your Legacy GE PLC to determine how well prepared you are to continue with your Legacy system. Knowing what parts you need is a great first step—let us help you continue to excel in your industry!

Protect Your Plant from Dangerous Downtime

Let Qualitrol's PLC experts devise a plan to protect your factory

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Don't Ignore the Batteries

Speaking of failing components; your battery is one part of your Legacy system that's going to need to be replaced. In fact, this is one part that would benefit from a scheduled replacement rather than just waiting for it to fail.

Your PLC processor's battery will need to be replaced every three years at the most. Depending on the condition of your processor—such as its age and whether or not it generates heat—your replacement may need to happen sooner.

Your best bet is to set aside a time to replace the battery before a failure occurs. Some Legacy systems such as the 90-30 have a backup battery to keep your system going in the event that your main battery fails.

Don't be worried about backing up your program or finding a new battery on time just because the original one has failed—set a schedule to replace the battery and utilize your LED lights on the processor to evaluate the health of your battery during your regular scheduled maintenance.

Swap Out Power Supplies

Earlier, we mentioned that output modules are one of the components that will need to be replaced sooner compared to other parts. This same philosophy applies to your power supplies.

So how long should you wait to switch out power supplies after a replacement? You should plan on scheduling a time to switch them out, much like your processor battery. They'll need to be replaced every five years on average. Again, it may be sooner if your system generates heat.

When it comes to keeping components in stock, power supplies are parts that you absolutely should have on hand for your Legacy systems. Depending on how often you need to switch out these supplies, you may want to keep numerous parts on hand.

Routine Maintenance Is Key

Of course, outlining a maintenance routine is easy. Actually doing the maintenance at quarterly intervals as recommended by GE is not. Maintenance is crucial to keeping your systems running and this is especially true with systems that are decades old.

In other words, small problems that go ignored because of a lack of maintenance can turn into much bigger problems for your system.

Qualitrol is here to help guide you through the most important maintenance tasks on your list—and to uncover others you might need during the process!

1. Check, Configure, and Measure—Analog Input Devices

When it comes to analog input components, you always want them to remain in good calibration. How can you do this? You should:

- **Check the voltage.** Change the voltage and ensure that the input module acknowledges the change.
- **Configure I/O channels.** Check the channel settings and confirm they match the sensor connected to that channel. They should also match your PLC configuration.
- **Ensure values are within range.** If the value is outside of the defined range, there may be a problem with the wiring or sensor.
- **Measure the actual voltage.** The practice of measuring the voltage to your device will help tell you if the issue is with your device or the PLC.

2. Minimize Damage of Contaminants

GE's Legacy systems such as Series Six and Series 90-70 were meant to survive in some pretty tough environments. This doesn't mean that you can let contaminants ravage your machine just because it's appeared invincible for the last 20 years.

Contaminants can be extremely damaging to your controller and will inhibit its function over time. If you can't keep these contaminants—especially airborne contaminants—in check, your machine will have a limited lifespan.

Regularly checking for contaminants during your visual inspections can help you properly manage these harsh chemicals. Always look for dust inside your cabinets, evaluate hardware for corrosion or melting, and remove dust and debris where applicable.

3. Double Check Your Connections

Some indecipherable problems are simply the result of a loose cable or connection. Check areas that experience heavy vibrations more often. Performing these checks during your regular maintenance routine can help eliminate connection errors and prevent problems.

4. Account for Electromagnetic Interference (EMI)

When your PLC works in the same environment as high voltages and currents, EMI should always be taken into account.

At Qualitrol, we've seen too many PLC installations that didn't account for EMI. EMI is produced through high currents and can cause problems for components that need a lower current to operate.

So how can you fix this?

Simply performing an audit of your existing wiring setup can help you know where EMI is happening and what you can do about it. The best time to do this is when updating your wiring diagrams.

If you're receiving faulty signals or disrupted communications, this is a sign that EMI is messing with your system. Qualitrol can help you perform an audit of your setup to discover if EMI is preventing your PLC from functioning at its best.

Expert Support

When it comes to maintaining your Legacy PLC, consistency is key. When you use a replacement part, order another so you won't be out of stock. When you perform maintenance checks, inspect the same things every time to ensure nothing gets overlooked.

Schedule a time to replace the battery and remember to never shut off your power while doing so. Don't wait for the battery to go bad to change it. Switch out power supplies that experience the most wear and tear on your systems.

And finally, don't hesitate to contact Qualitrol's experts should you need any type of support. From rushing you a component to talking you through a problem to on-site visits, we're here to help. We specialize in supporting Legacy systems that are no longer supported by their manufacturers.

We look forward to helping you maintain a long and healthy life for your GE PLC!

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About Qualitrol

Qualitrol International is the repair and remanufacturer division of CIMTEC Automation. We have installed, serviced or repaired hundreds of thousands of PLC systems over the past 20 years and hire the most knowledgeable automation engineers in the world.

Qualitrol is the only factory-authorized GE 90-70 Repair Center in the world and is also the only place you can still get new GE 90-70 PLC parts.

Workmanship, Functional Testing, and Product Presentation are the cornerstones of Qualitrol International's Remanufacturing and Repair processes.

When you need quality parts fast....

When you need quality repairs....

When you need the best support...

You need Qualitrol International.