

Troubleshooting...A window into the control process

Reality

For example, take a ControlLogix system. The ControlLogix is an incredible rugged and powerful controller whose processor seldom fails out of nowhere. However, the processor as well as the I/O module components may be exposed to excessive voltage lags and current loads, excessive temperatures inside the control panel as well as condensation which can short-circuit system components—any of these problems can have serious consequences causing a shut-down and turning into an unplanned downtime in your plant, which cost money, lots of money.



Additionally, the ControlLogix system controls the I/O field devices which control the actions and movements of the process. These I/O field devices can also fail due to a variety of potential problems, such as electromagnetic interference and crosstalk affecting sensitive low level signals like analog I/O, wire disconnections due to vibration on the devices load side, power supply connection problems at the field devices' supply side, and internal failures of the field devices themselves due to wear and tear.

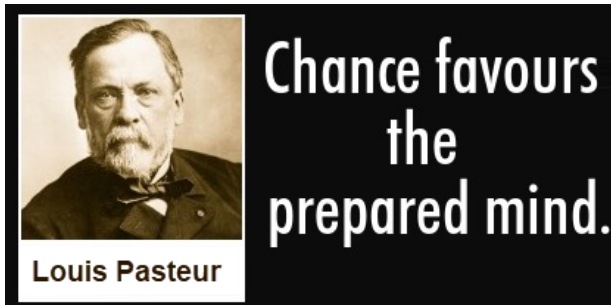


To properly troubleshoot the problems at the “system” level as well as at the “field devices” level, a technician has to “look” through a window into the process to detect where the problem lies.



In the case of a ControlLogix system, this window is provided by the Studio 5000 software, a wonderful software used for creating, modifying on-line, and documenting a process.

Additionally, the Studio 5000 provides incredible tools to troubleshoot a system providing a “window” that allow us to dig in to look for the problem and solve it as quickly as possible. These tools include Cross-Referencing techniques as well as “trends” and many more. With the Studio 5000 a technician can trace the root of the problems, whether it is within the “system” using system and I/O diagnostics, or if the problem is with an “I/O field device” the technician can trace and pinpoint the cause of the problem and bring the complete system back into production.



Be Prepared

The famous and brilliant French chemist Louis Pasteur said in 1854, “*Chance Favors Only the Prepared Mind*” meaning that sudden flashes of insight to solve a problem don't just happen, but are the product of preparation and training.

To effectively utilize the Studio 5000 tools during troubleshooting, technicians must have a rigorous way of learning how to troubleshoot the system (processor and I/O modules) as well as its interaction with the Studio 5000 software. It is only then when technicians can proceed to properly troubleshoot a problem by looking into the window of the control process.

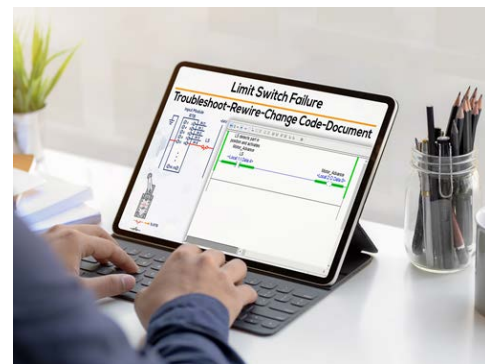


Ways to Learn

No matter what industry you are in, a plant runs most efficiently and satisfactorily with trained people—after all, *training is the first step in preventive maintenance*. To satisfy training requirements so that technicians can see the process through the window of the Studio 5000 in a ControlLogix system, maintenance managers may send 3 or 4 personnel to a basic 4 or 5 day training class off-plant premises (\$3000+ each) or bring in the classes on-site (up to \$25000 for 8 people). This cost, while well invested, also involves time for the personnel to be away from the plant, something that most maintenance departments can't afford. And sending few at a time to get trained, time-wise, is a difficult task to do considering the time away from their maintenance duties.



Other options may involve taking on-line courses where internet and Wi-Fi connections may present a problem at the plant because of security concerns where connections have to be approved by the IT and data security departments in addition with display resolution problems due to diverse type of computers available.



Another alternative is to utilize a transportable training portal that can be accessed by technician personnel to achieve a successful training program implementation on their own time schedule. We at ITV Training chose to provide this alternative innovative way to our manufacturing customers because they wanted something portable, in high-definition, interactive, personalized, repeatable, and a training system that could measure the learning of the users through a self-contained administrative reporting. And most importantly, a system that was affordable which could be implemented for unlimited personnel in the maintenance department.

Regardless of which training approach is selected, the application knowledge gained is guaranteed to benefit the maintenance department as well as the whole plant and the bottom line.

Content is the Key

One thing is also true for all pieces of the training puzzle to work..."content". The training content has to be incredibly useful and repeatable. The experience and knowledge transfer capabilities, or how to teach, of presenters (in classes) has to be spectacular—are the presenting instructors as capable as advertised and able to "teach"?



What are the "things" that we can take home to refresh the topics?—A copy of the power points used will not suffice nor is deserved after spending a lot of money, and refreshing material is so important because we all know that after spending a week on training, with a lot of material, the typical saying by a trainee is "lots of material...I hope I don't forget it in next week"—because there is no replay button to review again.

Our Experience

At ITV Training, our experience in delivering training programs to our customers is unrivaled. We have delivered PLC and Electrical & Motor Control training to tens of thousands of companies worldwide. We "wrote" the best selling PLC book of all times used in industry as well as many technical colleges, and the ControlLogix training program is of spectacular content with a delivery that immerses the trainee.

One thing is for sure, when members of your team go through this program, they will "know" the ControlLogix and how to utilize the Studio 5000 to troubleshoot problems by viewing through the window of the process—guaranteed.

Whatever Method You Decide—*Do Train*

Don't delay the implementation of your ControlLogix training in your maintenance department regardless of what option you decide to go with and be certain that if you have any questions to implement your training, please call us.

We're Here to Help You

For an in-depth learning content of our training check out our detailed brochure to see what each of the ten modules in the program will give your technicians—you will agree that our ControlLogix solution is your best bet to get your personnel trained and solving problems in the plant floor.

About the ControlLogix/Studio 5000 training program:

- Over 17,000 graphic interactions and multimedia
- Ten handbooks totaling 1200+ page in full color
- Over 14,000 man-hours to produce this program
- Content equivalent to 10-day of training at more than \$7200 cost
- Over 440+ practical/real life Review Questions after each module
- Each module has 20 randomly selected Final Exam questions
- Easy to use Training Portal in a HD tablet
- Administrative and lesson tracking proprietary software built-in
- Guaranteed that technicians will master the ControlLogix/Studio 5000
- Equivalent to going to a 10-day off-premises training at a total cost of over \$7500—for just one person

Any questions please call us Toll-Free at 888-375-5334 or visit our product site at www.clx.industrialtext.com. We are here to help you.

