Safety Validator

The easiest and quickest way to validate Triconex application logic

www.triconex.com
Triconex Safety Validator

Triconex Safety Validator automatically tests Triconex application logic quickly and effectively, validating that the application logic functions as intended. Test results are automatically documented, saving time and money.

The easiest and quickest way to test and validate Triconex application logic

The TÜV certified Triconex Safety Validator application provides powerful and easy to use automated logic testing. It validates that the application logic running in your Tricon controller functions as intended. Triconex Safety Validator automatically documents the results, saving effort, time and money.

Triconex Safety Validator delivers value on new projects as well as when executing periodic proof testing.

Testing at the push of a button

Automated testing is a valuable way to perform testing of Triconex application logic, ensuring that the functionality, new features or modifications operate as intended.

Automated testing complements manual testing methods. No special programming is required – simply configure Triconex Safety Validator for your specific test requirements.

Tests, test cases and test scripts are quickly and easily created. Tests can be run on the TriStation TS1131 emulator or on the Tricon controller. Results are self-documented, making it ideal for use on new projects or when executing periodic proof testing.

Key Benefits

Triconex Safety Validator delivers a number of benefits, including:

- Saves time
- Saves money
- Reduces test effort

But also:

- Increases test accuracy and test coverage
- Optimizes test resources
- Increases test efficiency
- Ensures repeatable test quality

40%

Automated tests are significantly faster than manual tests and reduce the test cycle. The use of automated test tools can reduce testing time by as much as 40%.

24 hours

Automated tests are more efficient and can run "around the clock" effectively giving you a day shift and a night shift, 24 hours a day, 7 days a week.

0 errors

Automated tests eradicate human factors such as fatigue and error. Automated tests perform the same steps precisely every time and never forget to document the results.
Quick and easy to use application logic testing.

Prove that the Triconex safety system application logic works as intended (either as part of a new system/project or as a requirement for re-validating an existing system) and to minimize errors that could potentially lead to catastrophic events.

Test any application

Triconex Safety Validator can be used to test any Triconex application, including:

- Emergency Shutdown (ESD)
- Fire and Gas Detection (F&G)
- High Integrity Pressure Protection Systems (HIPPS)
- Burner Management Systems (BMS)
- Boiler Protection Systems
- Pipeline Protection systems
- Turbomachinery safety and protection (TMC)

Save time

The use of automated testing can be 50% faster than traditional manual testing. Triconex Safety Validator saves time through:

- Easy to configure test scripts
- Easy to run tests - run a set of tests, single test or even a subset of a test
- Easy to re-run test in seconds or minutes, not hours or days

Optimise resources

Automated tests are more efficient and can run “around the clock”, allowing you to test 100% of the day. Triconex safety validator allows you to:

- Utilize manpower more effectively
- Free up critical personnel for high value activities
In today’s economic climate everyone strives for productivity and efficiency gains. Triconex Safety Validator validates the safety system application logic more efficiently and effectively than traditional manual validation methods.

Ensure repeatable quality
Automated testing eradicates human factors such as fatigue, human error, lack of skills and competency often attributed as key contributors to safety related incidents. Triconex Safety Validator:

- Self-documents results
- Automatically determines Pass/ fail
- Provides greater test coverage than manual testing

Increase Efficiency
Automated tests perform the same steps precisely every time and never forget to document the results. Triconex Safety Validator increases efficiency:

- Automate repetitive tasks
- Repeatable and consistent test every time
- Reduce validation time and effort

Create additional value
Automated tests can be used for other purposes, such as training operators to deal with different scenarios such as start-up, shutdown and abnormal conditions.

- Gain valuable experience in a simulated environment
- Measure operator performance, response times, reaction etc. under abnormal conditions

Requirements
Triconex Safety Validator Version 1.0 supports the following Triconex platforms:

- Tricon Version 11.1 or later controllers
- TriStation TS1131 Version 4.14.0.xxx or later
- TriStation TS1131 Emulator Version 1.6 or later

Industries Served
- Oil and Gas
- Exploration and production
- Refining
- Chemical
- Pipelines and distribution
- Energy and power generation

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A safety partner for life

Don’t have the time or resources to perform the tests yourself or you need independent validation or verification? Our team of safety experts are available to assist you with all of your application testing requirements.

Create test, test scripts and test cases

Triconex Safety Validator functions include:

- Consistent, structured and systematic approach
- Use all tagnames (BOOL, DINT, & REAL) found in PT2 file – both aliased and unaliased
- Easy to configure and use tabular / grid interface to build logic validation scripts (quick and easy to use without extensive software knowledge)
- Flexible layout - organize the information in the grid to suit your needs
- Copy, paste, cut, insert, replace to maximize efficiency creating test scripts
- Move tests between test cases
- Database seamlessly extracted from TriStation with minimum use intervention
- Drag tag name database elements from TriStation TS1131 or copy and paste to/from Excel
- Comprehensive instruction set (Single step, Pause, Run, Disable and Set, Disable Point, Enable Point, Enable All, Set, Verify, Wait, Wait Value, Wait User Input, Call)
- Dynamic filtering in test cases
- Import .csv files containing SIF information for traceability
- Link to Safety Requirements Specification
Automated tests perform the same steps precisely every time, and never forget to document the test results.

**Execute tests**
- On the actual Tricon Controller while the controller is offline.
- On the TriStation TS1131 Emulator
- Select which test cases to run (run a set of tests, single test, subset of test)
- Either perform Single Step through the test suite / cases (useful when verifying information is being properly displayed on the DCS screens, alarm summaries, etc.) or have TSV automatically execute all test suite / case steps
- Configurable Delay between steps

Repeatable / consistent tests each and every time - compared to "human tests" that rely heavily on the experience of the specific test engineer
- Decouple logic testing from physical hardware
- Test the application anywhere in any location
- Easy to adapt and change test requirements
- Re-run modified tests in seconds, not days
- Test "mod packs" or changes before implementing

**Self-documenting test results**
- Pass/Fail automatically determined by Triconex Safety Validator
- User can enter pass/fail for manual checks
- Time stamped test results
- Dependable, consistent results
- Customizable test reports

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