

# Factsheet



## RuleChecker for C/C++

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RuleChecker is a static analyzer designed to check coding guidelines and compute code metrics for safety-critical C/C++ programs adhering to the C90, C99, C11, C18, and C++98, C++11, C++14, C++17 language norms.

## Key features

- Fast and easy to use
- Enforcement of coding guidelines including MISRA-C:2004, MISRA C:2012, and customized rule sets
- No false positives and no false negatives on syntactical rules
- Seamless integration with Astrée to guarantee zero false negatives and minimal false positives on semantical rules
- Computation of code metrics: HIS metrics and customized metrics
- Enforcement of metric thresholds
- Full tracability of reported code issues
- Interactive result exploration
- Robust classification of findings
- Configurable report file generation
- Tracking and visualization of project progress and analysis revisions
- Client/server architecture featuring queue processing of analysis requests, and centralized user management and authentication
- Stand-alone tool with open interfaces and open file formats
- MATLAB integration and TargetLink coupling
- Automatic tool qualification according to safety standards

## Key benefits

RuleChecker is a static analyzer for ensuring high code quality by demonstrating compliance to coding standards such as MISRA C. It is fast, easy to use and yields precise results. The tool can be used on handwritten code, automatically generated code, or by any combination thereof. Open interfaces

and full batch mode execution make RuleChecker ideally suited to be used in continuous verification frameworks. Tool couplings, e.g., to dSPACE TargetLink, are available that provide a seamless integration in existing development environments. By using its Qualification Support Kit, RuleChecker can be automatically qualified according to all contemporary safety norms (e.g., ISO 26262 or DO-178B/C). RuleChecker enable users to

- demonstrate compliance to code guidelines,
- improve software quality, and
- reduce time-to-market.

## Supported standards

- ISO/IEC 9899:1990 (C90)
- ISO/IEC 9899:1999 (C99)<sup>1</sup>
- ISO/IEC 9899:2011 (C11)
- ISO/IEC 9899:2018 (C18)
- ISO/IEC 14882:1998 (C++98)
- ISO/IEC 14882:2011 (C++11)
- ISO/IEC 14882:2014 (C++14)
- ISO/IEC 14882:2017 (C++17)
- Joint Strike Fighter Air Vehicle C++ Coding Standards
- MISRA-C:2004
- MISRA C:2012
- MISRA C:2012 Amendment 1&2
- MISRA AC AGC
- HIS metrics
- ISO/IEC TS 17961:2013 (C Secure Coding Rules)
- SEI CERT C Coding Standard
- SEI CERT C++ Coding Standard
- Common Weakness Enumeration (CWE)
- MISRA C++:2008
- AUTOSAR C++14

## System requirements

- Windows: x86-64 Windows 10 (1809) or newer

<sup>1</sup>including technical corrigendums 1-3



- Linux: x86-64 RHEL 9 or compatible
- 4 GB of RAM (16 GB recommended)
- 4 GB of disk space

## Also available

The following AbsInt products are also available for this target:

- Astrée
- Qualification Support Kit

## More information

- Visit our website: [www.absint.com](http://www.absint.com)
- Speak with a product specialist:  
call +49 681 383 600

## About AbsInt

AbsInt provides advanced development tools for embedded systems, and tools for analysis, optimization and verification of safety-critical software. Our customers are located in more than 40 countries worldwide. We have distribution agreements with major software distributors in Asia, North America, Middle East, and throughout Europe.

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