



▪ TEST

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AMA-61850-Test-KiT **For IEC 61850 Communication**

Data Sheet

December 2013

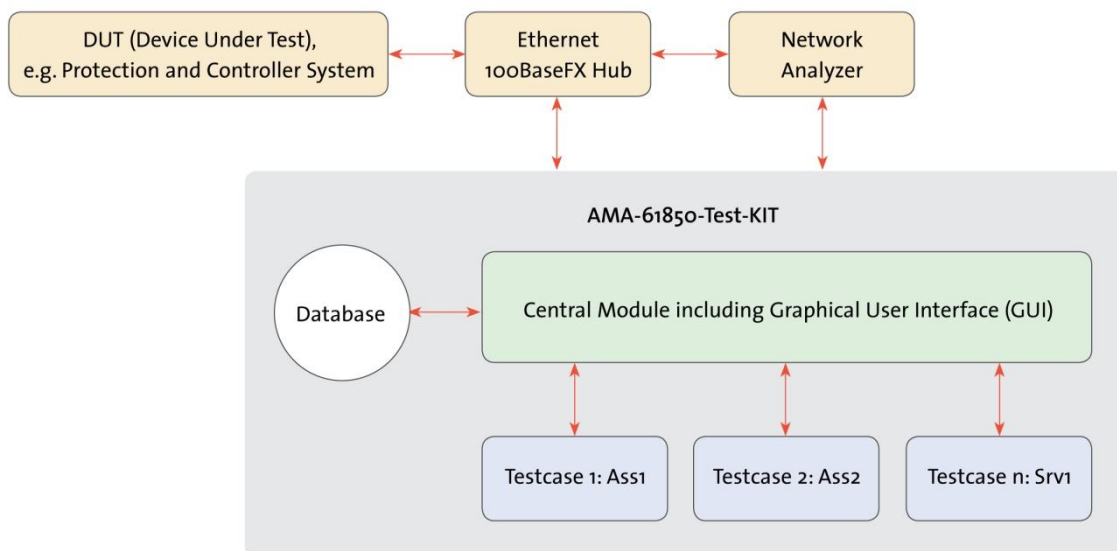
1 Introduction

The **AMA-61850-Test-KiT** offers the possibility to test devices e.g. Protection and Control Systems regarding their conformity to the communication standard IEC 61850-10. The AMA-61850-Test-KiT gives the possibility to perform the tests specially tailored to your device. Using the AMA-61850-Test-KiT you can perform test cases regarding the definitions of the UCA® International Users Group.

The Product is of modular design. It consists of a central module, which controls the whole product, and individual test case modules. Each test case is implemented in such a separate module.

The central module offers a graphical user interface (GUI) for configuration of the tests and to display the results. It is possible to define several different test runs for a device. The test cases of a test run can be freely chosen from the available test cases. The configuration of the test cases is done using a graphical user interface. The configuration can be done independently and autonomously for each individual test case and test run.

The central module controls the test execution respectively the test procedure with running the separate test case modules according to the configuration and stores the results for each individual test case and all parameters of the whole test run into a database. This includes the parameters of each individual test case within each individual test run. That's why it is guaranteed that a test run can be reproduced at any point of time. The central module also issues the test documentation.



AMA-61850-Test-KiT - shown in a typical Test Configuration.

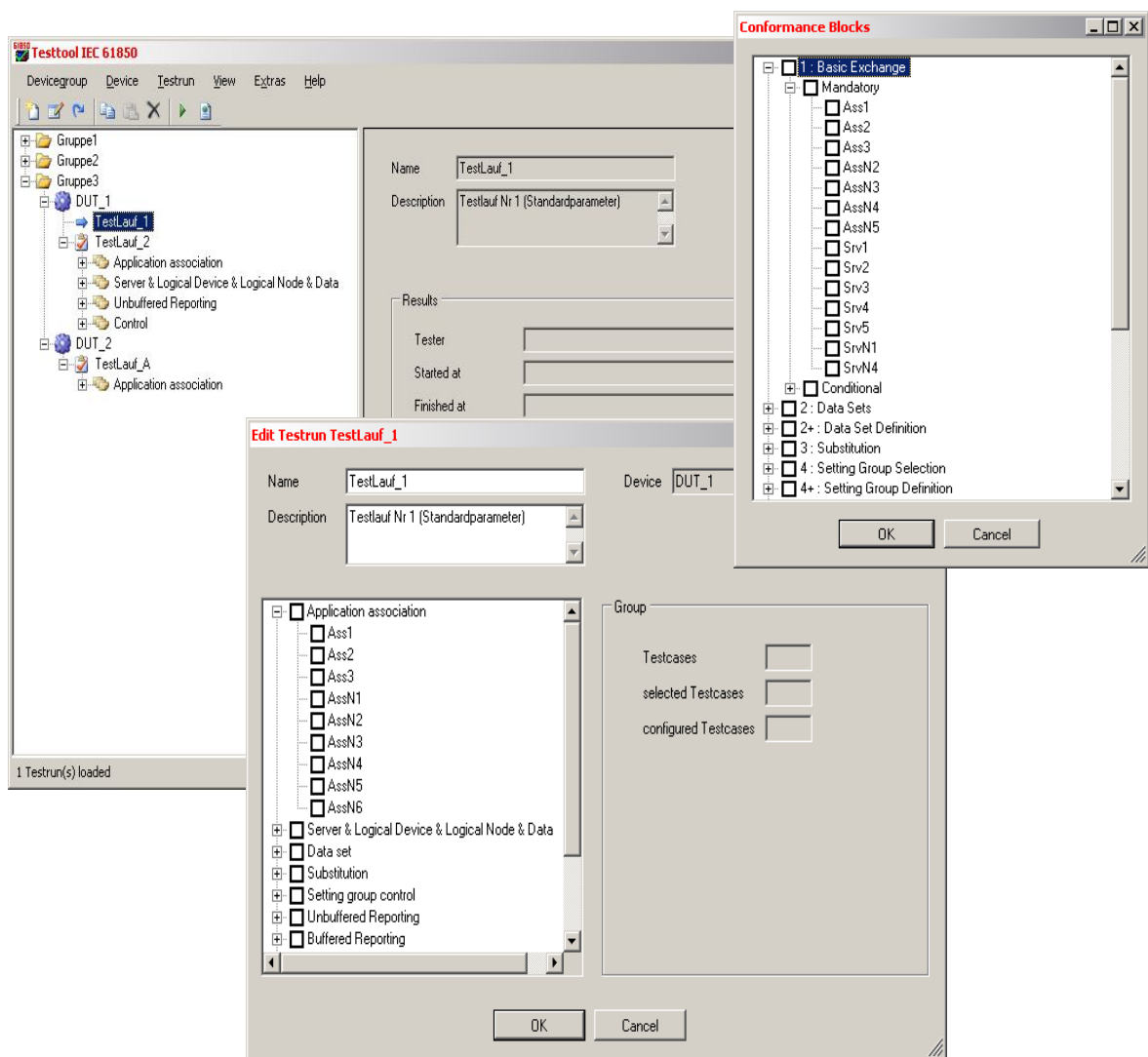
2 Features of the AMA-61850-Test-KiT

- The AMA-61850-Test-KiT can perform tests that correspond to the following UCAIug test case definitions:
 - **Basic Exchange:** Ass1, Ass2, Ass3, AssN2, AssN3, AssN4, AssN5, Srv1, Srv2, Srv3, Srv4, Srv5, Srv6, Srv7, Srv8, SrvN1abcd, SrvN1e, SrvN1f, SrvN2, SrvN3, SrvN4
 - **Data Sets:** Dset1, Dset10a, DsetN1ae
 - **Data Set Definition:** Dset2, Dset3, Dset4, Dset5, Dset6, Dset7, Dset8, Dset9, DsetN2, DsetN3, DsetN4, DsetN5, DsetN6, DsetN7, DsetN8, DsetN9, DsetN10, DsetN11, DsetN12, DsetN13, DsetN14
 - **Unbuffered Reporting:** Rp1, Rp2, Rp3, Rp4, Rp7, Rp10, Rp12, RpN1, RpN2, RpN3, RpN4
 - **Buffered Reporting:** Br1, Br2, Br3, Br4, Br7, Br8, Br9, Br12, Br14, BrN1, BrN2, BrN3, BrN4, BrN5
 - **Enhanced buffered Reporting:** BrE1, BrE2, BrE3, BrE6, BrE7, BrE8, BrE9, BrE10, BrE11
 - **GOOSE publish:** Gop2, Gop3, Gop4, Gop7, Gop10a, Gop1, GopN1
 - **GOOSE subscribe:** Gos1a, Gos2, Gos3, GosN1, GosN2, GosN3, GosN4, GosN5, GosN6
 - **Direct control:** CtlN3, CtlN8, DOns1, DOns3
 - **SBO control:** Ctl3, CtlN1, CtlN2, CtlN3, CtlN4, SBOs2
 - **Enhanced Direct Control:** CtlN3, CtlN8, DOes2, DOes5
 - **Enhanced SBO Control:** Ctl3, SBOes1, SBOes2, SBOes3, CtlN1, CtlN2, CtlN3, CtlN4, CtlN9
 - **Time sync:** Tm1, Tm2, TmN1, TmN2
 - **File transfer:** Ft1, Ft2ab, FtN1ab

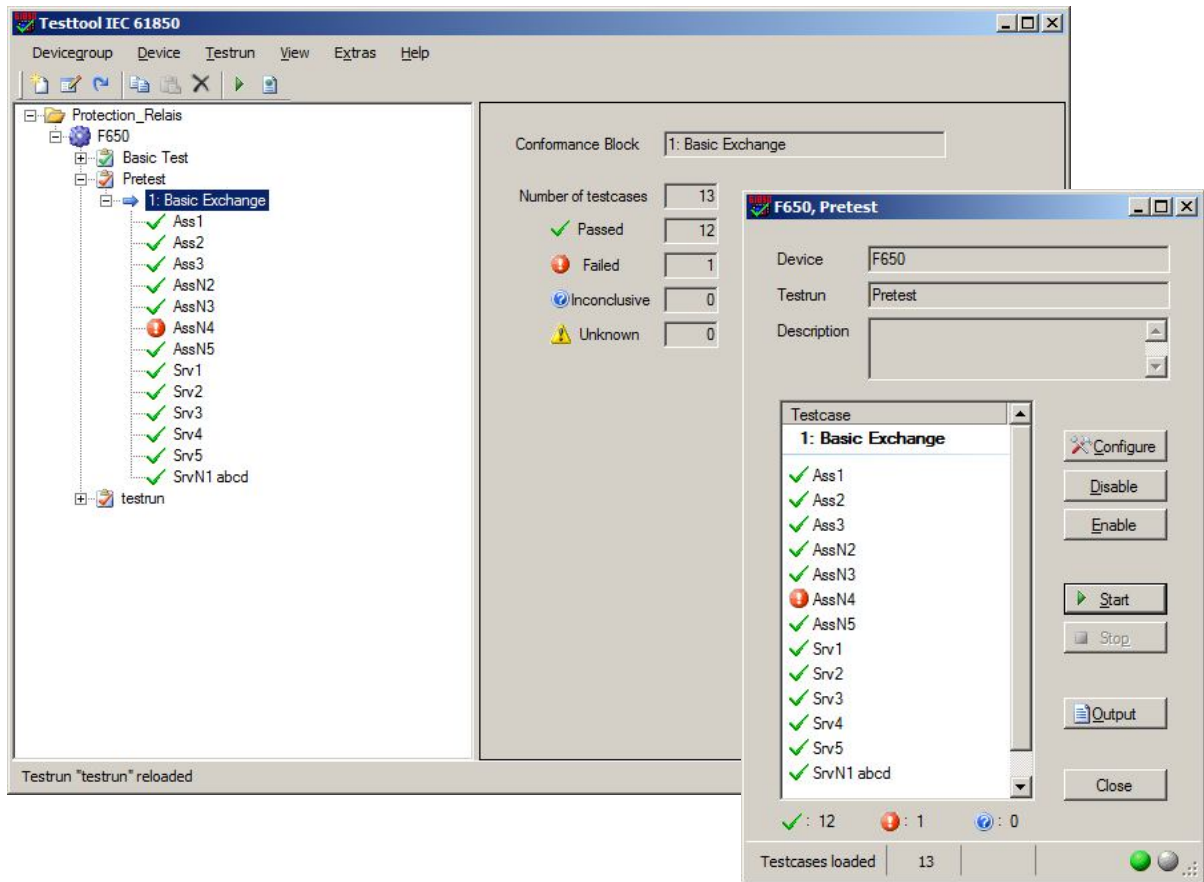
- Easy configuration of tests with the graphical user interface.
- Individual onfiguration of test cases of a test run through a GUI and/or individual XML-files.
- Indication of test case result: 'Passed', 'Failed', 'Inconclusive'.
- On error ('Failed') and unclearness ('Inconclusive') the Test-KiT provides hints of possible error sources.
- Storage of all relevant data, device data, test run configuration, test case parameters and test case results in a data base.
- Reproducibility: A test run is comprehensible and repeatable at a later point in time.
- Database access according to SQL standard, connection of any type of SQL – databases possible.
- Sustainability due to modular structure: New versions of existing test cases possible through exchange of test case modules (+ configuration files).

- Extensibility: New test cases are easy to add through addition of the test case module (+ configuration file).
- Broadly automation with maximal flexibility.
- Test procedures widely free configurable.
- Easy installation on a computer with Windows operating systems.

3 The Graphical User Interface



AMA-61850-Test-KiT: Configuration of tests using the GUI



AMA-61850-Test-KiT: Execution of a test run.

4 System requirements and Support

4.1 System Requirements

Computer with operating system MS Windows XP (x86 or x64) and MS Windows Server 2003 (x86 or x64), MS Windows 7 (x86 or x64) or MS Windows Server 2008 (x86 or x64) with at least 1 GB RAM and one Ethernet Network Interface card. In addition, a USB port is required for the copy protection Dongle.

The actual required hardware resources (CPU, RAM, ..) depends on the extent of the tests, and the respective configuration of the Test-KiT.

4.2 Technical Support

For technical support a 12-months-support contract has to be agreed upon. If a training with terms of 1.5 - 2 days is ordered, the technical support is included in the license price within the first 12 months after purchase.

Software updates by separate CD are also included in the Maintenance & Support contract.

Support renewal for M&S is available for 12 months.

5. Available Versions

- **AMA-61850-Test-KiT**
- Individual versions of Test Cases can be ordered.

AMA-SYSTEMS offers specific Consulting, Training and Workshops on request. Also Maintenance & Support Contracts are available on yearly basis to make sure to have continued access to Technical Support Team. - With a valid M&S Contract also free Updates are available, as Upgrades for AMA Licenses are released continuously.

➤ **Contact:**

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