

2006-11-27



TÜV Rheinland Group

Automation, Software and Information Technology

**Report of the approval of different changes of
Safety Manager R110.5**

**Report-No.: 968/EZ 195.04/06
Date: 2006-11-27**

**Report of the approval of different changes of
Safety Manager R110.5**

Report-No.: 968/EZ 195.04/06

Date 2006-11-27

Pages: 6

Test objects: Safety Manager R110.5

Customer/Manufacturer: Honeywell Safety Management Systems
Rietveldenweg 32A
NL-5222 AR's-Hertogenbosch
The Netherlands

Order-No./Date: Project 740105 dated 2005-09-20

Test Institute: TÜV Rheinland Industrie Service GmbH
Automation, Software and Information Technology
Competence Center Safeguards and Safety Components
Am Grauen Stein
D-51105 Köln

TÜV-Order-No./Date: 9633448 dated 2006-11-20

Inspectors: Dipl.-Ing. Andreas Hesse

Test location: see Test Institute and customer/manufacturer

Test duration: November 2006

The test results are exclusively related to the test samples.

This report must not be copied **in an abridged version** without the written permission of the Test Institute.

Contents	Page
1. Scope	4
2. Standards forming the basis for the requirements	4
3. Test object.....	5
3.1 History and test objects.....	5
3.2 Product and test documents	5
3.3 Test samples	5
3.4 Previous test reports	5
4. Protocol and results type approval.....	6
4.1 Documentation of the changes	6
4.2 Assessment of the changes	6
5. Conclusion.....	6

1. Scope

In the following report the results of the approval of the changes to the Safety-Manager are presented.

The report is based on the previous reports listed in chapter 3.4.

It is described, which tests were performed, who performed them and which results were obtained.

2. Standards forming the basis for the requirements

Functional Safety

- [S1] IEC 61508, parts 1 - 7:2000 Functional safety of electrical/electronic/programmable electronic safety-related systems
- [S2] EN 954-1/1996 Safety of machinery, Safety related parts of control systems Part 1: General principles of design

Application specific

- [S3] EN 50156-1/2004 Electrical Equipment for Furnaces
- [S4] IEC 61511/2004 Safety Instrumented Systems for the process industry sector
- [S6] NFPA 72/2002 National Fire Alarm Code Handbook
- [S7] NFPA 85/2001 Boiler and Combustion Systems Hazards Code
- [S8] EN 54-2/1997 Fire Detection and Fire Alarm Systems Control and indicating equipment
- [S9] EN 54-4/2003 Fire Detection and Fire Alarm Systems
- [S10] EN 298/2003 Automatic gas burner control systems for gas burners and gas burning appliances with or without fans

Electrical safety and resistance against environmental conditions

- [S5] IEC 61131-2/2003 Programmable Controllers
- [S11] IEC 61010-1/2001 Safety requirements for electrical equipment for measurement, control and laboratory use

Climate

- [S5] IEC 61131-2/2003 Programmable Controllers
 - IEC 60068-2-1 Test Ab and Ad: Cold (part of EN 61131-2)
 - IEC 60068-2-2 Test Bb and Bd: Dry heat (part of EN 61131-2)
 - IEC 60068-2-14 Test N: Change of temperature (part of EN 61131-2)
 - IEC 60068-2-30 Test Db: Damp heat, cyclic (part of EN 61131-2)
 - IEC 60068-2-32 Test Ed. Free fall (part of EN 61131-2)

Shock/Vibration

[S5] IEC 61131-2/2003 Programmable Controllers	
IEC 60068-2-6 Test Fc: Vibration	(part of EN 61131-2)
IEC 60068-2-27 Test Ea: Shock	(part of EN 61131-2)

EMC/EMI

[S5] IEC 61131-2/2003 Programmable Controllers	
EN 55011	(part of EN 61131-2)
IEC 61000-4-2, ESD	(part of EN 61131-2)
EN 61000-4-3, RFI	(part of EN 61131-2)
EN 61000-4-4, Burst	(part of EN 61131-2)
EN 61000-4-5, Surge	(part of EN 61131-2)
EN 61000-4-6, cond. RFI	(part of EN 61131-2)
EN 61000-4-8, Magnetic	(part of EN 61131-2)

3. Test object

3.1 History and test objects

The initial certification and changes were documented in the test reports listed in chapter 3.4.

After that some changes have been carried out to improve the systems' behaviour.

3.2 Product and test documents

The documentation has been provided to the Test Institute electronically.

For each change a PAR (Product Anomaly Report) has been carried out.

The documents are stored at the Test Institute.

3.3 Test samples

No test samples were required.

3.4 Previous test reports

- [T1] Report of the type approval of Safety Manager
Report-No.: 968/EZ 195.00/05, Date: 2005-03-04
- [T2] Report of the approval of different changes of Safety Manager
Report-No.: 968/EZ 195.01/05, Date: 2005-07-15
- [T3] Report of the approval of different changes of Safety Manager
Report-No.: 968/EZ 195.02/05, Date: 2005-10-04
- [T4] Report of the approval of SafeNet and different changes of Safety Manager
Report-No.: 968/EZ 195.03/06, Date: 2006-08-04

4. Protocol and results type approval

4.1 Documentation of the changes

Each change has been documented in a PAR (Product Anomaly Report). The report contains information about:

- Reason of change
- Impact analysis
- Test result (if required)

The documents contain the necessary information to understand the reason for change. The way of documentation fulfils the requirements of IEC 61508.

In detail the following PAR's have been reviewed:

PAR 2304, Rev. 0.2 dated 2006-11-20

PAR 2311, Rev. 0.2 dated 2006-11-20

PAR 2313, Rev. 0.1 dated 2006-09-15

PAR 2336, Rev. 0.1 dated 2006-09-27

PAR 2362 dated 2006-11-07

4.2 Assessment of the changes

Most of the changes were carried out to increase availability. Only one item has been found that may affect safety.

All items were solved either by change of the software or by description of a workaround. All items were retested, as far as required.

The results are accepted by the Test Institute.

5. Conclusion

During the evaluation of the changes for the Safety Manager no infringement of the functional and safety-related requirements in the applied standards could be found.

Therefore the Safety Manager can be used in safety related applications for SIL 1, SIL 2 or SIL 3 according to IEC 61508 or Category 1 to 4 according to EN 954-1.

Observance must be given to the installation conditions and application notes defined in the Operating and Instruction Manuals.

The additional requirements as listed in [T1] and [T3] have to be taken into consideration.

The certificate no. 968/EZ 195.03/06 dated 2006-08-04 is still valid.

Actual information about the certification status of the Safety Manager and actual releases of HW and SW components can be obtained from the homepage of the Test Institute. Please refer to the "List of type approved PES" published on: <http://www.tuvasi.com/>.

Cologne, 2006-11-15
TIS/ASI/Kst. 968 he-nie

The inspector

A handwritten signature in blue ink that reads 'Andreas Hesse'.

Dipl.-Ing. Andreas Hesse