

2011-01-28

Automation, Software and Information Technology

**Report on the type approval
of the CompactGuardLogix controller**

**Report-No.: 968/EZ 448.02/11
Date: 2011-01-28**

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Report-No.:	968/EZ 448.02/11
Date of report:	2011-01-28
Pages without appendix:	6
Test object:	CompactGuardLogix controller Type: 1768-L45S 1768-L43S Firmware Version: V19.11.16
Customer:	Rockwell Automation 1201 South Second Street Milwaukee, WI 53204 United States of America
Manufacturer:	see customer
Order-No./Date:	7000069797 dated 2010-11-05
Test Institute:	TÜV Rheinland Industrie Service GmbH Automation, Software and Information Technology Am Grauen Stein 51105 Köln Germany
TÜV-Offer-No./Date:	968/338/10 dated 2010-07-29
TÜV-Order-No./Date:	10522085 dated 2010-11-09
Inspector:	Dipl.-Ing. Andreas Hesse
Test locations:	TÜV Rheinland
Test duration:	November 2010 to January 2011

The test results are exclusively related to the test samples.

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1. Scope

The GuardLogix Controller 1756-L6xS / 1756-LSP has been type approved against the requirements of EN ISO 13849-1:2008, PL e and EN 62061, SIL 3.

Based on this type approval an EC-Type examination certificate shall be issued.

2. Standards forming the basis for the requirements

Functional safety

- [S1] IEC 61508, parts 1 - 7: 1998 - 2000
Functional safety of electrical/electronic/programmable electronic safety-related systems
- [S2] ISO 13849-1:2008 (replacement for EN 954-1:1996)
Safety of machinery - Safety-related parts of control systems -
Part 1: General principles for design
- [S3] EN 954-1:1996
Safety of machinery, Safety related parts of control systems,
Part 1: General principles of design

Application specific

- [S4] IEC 61511-1:2003
Functional safety - Safety instrumented systems for the process industry sector
Part 1: Framework, definitions, system, hardware and software requirements
- [S5] EN 62061:2005
Safety of machinery - Functional safety of safety-related electrical, electronic and
programmable electronic control systems
- [S6] NFPA 79:2007
Electrical Standard for Industrial Machinery
- [S7] NFPA 85:2007
Boiler and Combustion Systems Hazards Code
- [S8] NFPA 86:2007
Standard for Ovens and Furnaces
- [S9] ANSI B11.19:2003
American National Standard for Machine Tools - Performance Criteria for Safeguarding
- [S10] ANSI/RIA R15.06:1999
American National Standard for Industrial Robots and Robot Systems - Safety
Requirements
- [S11] AS4024.1:2006
Safety of machinery
- [S12] EN 54-2:1997 / A1:2006
Fire Detection and Fire Alarm Systems - Control and indicating equipment
- [S13] EN 50156-1:2004
Electrical equipment for furnaces and ancillary equipment
Part 1: Requirements for application design and installation
- [S14] EN 60204-1:2006
Safety of machinery - Electrical equipment of machines;
Part 1: General requirements

Electrical safety and resistance against environmental conditions

- [S15] IEC 61131-2:2007
 Programmable Controllers - Equipment requirements and tests
- [S16] EN 50178:1997
 Electronic equipment for use in power installations

3. Test objects

3.1 Identification of the test objects

The test object is GuardLogix Controller and different I/O-modules:

Component	Type designation
Primary Controller - V19.11.16	1768-L43S
	1768-L45S
Guard I/O EtherNet Safety Modules	1791ES-IB8XOBV4 1791ES-IB1
Guard I/O DeviceNet Safety Modules	1791DS-IB8XOBV4 1732DS-IB8XOBV4 1791DS-IB16
1791DS Series DeviceNet Safety I/O Modules	1791DS-IB12 1791DS-IB8XOB8 1791DS-IB4XOW4
Point Guard I/O Safety Modules	1734-IB8S 1734-OB8S

3.2 Previous test reports

- [T1] Report of the type approval of the Compact GuardLogix Controller of Rockwell Automation; Report-No.: 968/EZ 448.00/10 dated 2010-03-30
- [T2] Test report about the supplementary type approval of the Compact GuardLogix controller Report-No.: 968/EZ 448.01/10 dated 2010-11-11
- [T3] Inspection of the Guard I/O EtherNet Safety Modules 1791ES-IB8XOBV4 and 1791ES-IB16 of Rockwell Automation, USA
 Report-No.: 968/EZ 265.00/07 dated 2007-08-07
- [T4] Assessment of the Firmware update for the Guard I/O EtherNet Safety Modules 1791ES-IB8XOBV4 and 1791ES-IB16 of Rockwell Automation, USA
 Report-No.: 968/EZ 265.02/09 dated 2009-05-22
- [T5] Assessment of the firmware update (V 1.7 to V 1.8) for the Guard I/O EtherNet safety modules 1791ES-IB8XOBV4 and 1791ES-IB16 of Rockwell Automation, USA
 Report-No.: 968/EZ 265.03/09 dated 2009-08-14
- [T6] Inspection of the Guard I/O DeviceNet Safety Module 1791DS-IB8XOBV4 Rockwell Automation USA
 Report-No.: 968/EZ 243.00/06 Date: 2006-11-30
- [T7] Inspection of the Guard I/O DeviceNet Safety Modules 1791DS-IB8XOBV4 and 1732DS-IB8XOBV4 Rockwell Automation, USA
 Report-No.: 968/EZ 243.01/07 dated 2007-03-16
- [T8] Inspection of the Guard I/O DeviceNet Safety Modules 1791DS-IB8XOBV4, 1732DS-IB8XOBV4 and 1791DS-IB16 Rockwell Automation, USA
 Report-No.: 968/EZ 243.02/07 dated 2007-04-10

- [T9] Inspection of the Guard I/O DeviceNet Safety Modules 1791DS-IB8XOBV4, 1732DS-IB8XOBV4 1791DS-IB16 and 1732DS-IB8 Rockwell Automation, USA
Report-No.: 968/EZ 243.03/07 dated 2007-09-28
- [T10] Assessment of the firmware update for Guard I/O DeviceNet Safety Modules 1791DS-IB8XOBV4, 1732DS-IB8XOBV4, 1791DS-IB16 and 1732DS-IB8 of Rockwell Automation, USA
Report-No.: 968/EZ 243.04/09 dated 2009-05-21
- [T11] IP update for Guard I/O DeviceNet Safety Modules 1732DS-IB8XOBV4 and 1732DS-IB8 of Rockwell Automation, USA
Report-No.: 968/EZ 243.05/10 dated 2010-03-08
- [T12] Test report on the type approval of 1791DS Series DeviceNet Safety I/O Modules 1791DS-IB12 and 1791DS-IB8XOB8
Report-No.: 968/EZ 190.00/05 Date: 2005-01-28
- [T13] Test report on the type approval of 1791DS Series DeviceNet Safety I/O Modules 1791DS-IB12, 1791DS-IB8XOB8 and 1791DS-IB4XOW4,
Report-No.: 968/EZ 190.01/05 Date: 2005-08-02
- [T14] Acknowledgment and statement to product changes
Report-No. 968/EZ 190.02/05 dated 2005-11-30
- [T15] Statement for issuing a Co-Certificate
Report-No. 968/EZ 190.03/09 dated 2005-11-30
- [T16] Test report on the type approved 1791DS Series DeviceNet regarding recalculation of PFD_{AV} / PFH
Report-No.: 968/EZ 190.04/09 dated 2009-11-12
- [T17] Assessment of the Point Guard I/O Safety Modules 1734-IB8S and 1734-OB8S Rockwell Automation, USA
Report-No.: 968/EZ 342.00/09 Date: 2009-02-05
- [T18] Assessment of the firmware update for the Point Guard I/O Safety Module 1734-IB8S of Rockwell Automation, USA
Report-No.: 968/EZ 342.01/10 dated 2010-09-15

4. Tests and test results

The CompactGuardLogix controller 1768-L43S / 1768-L45S is type approved (see [T1] to [T2] for details) against the requirements of EN ISO 13849-1:2008, PL e and EN 62061, SIL 3.

In addition to the successfully conducted type approval the conformity of the user documentation and labels was checked regarding the requirements of Annex I of EU Machinery Directive 2006/42/EC.

The language of the original instruction is English.

Result

The user documentation and the product labels fulfil the applicable requirements of Annex I of the EU Machinery Directive 2006/42/EC.

The review of the translations of the original instructions was not part of this approval.

5. Summary

The results of the type approval stated in the Report-No.: 968/EZ 448.01/10 are still valid. The product complies with the requirements of the relevant standards

EN 62061: SIL CL 3

IEC 61508: SIL 3

ISO 13849-1: PL e

Hence it is suitable for the use in applications up to SIL 3 acc. to EN 62061 / IEC 61508 and Category 4 / PL e according to ISO 13849-1.

Due to customer requirement a new EC-Type approval certificate is issued.

The instructions of the associated installation instructions, user manuals and the safety reference manuals shall be considered.

Cologne, 2011-01-28
TIS/ASI/Kst. 968 he-nie

Report released after review:
Date: 2011-01-28

The inspector



Dipl.-Ing. (FH). Andreas Hesse



Dipl.-Ing. Stephan Häb