

Automation, Software and Information Technology

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

**Report-No.: 968/EZ 191.11/10
Date: 2010-12-08**

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Pages without appendix: 6

Test object: GuardLogix controller
Type: 1756-L61S
1756 L62S
1756 L63S
1756-LSP

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 December 2010

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 / 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	1756-L61S
	1756 L62S
	1756 L63S
Safety Partner - V19.11.16	1756-LSP
Guard I/O EtherNet Safety Modules 6	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 GuardLogix-SIL 3-Controller of Rockwell Automation;
Report-No.: 968/EZ 191.00/05 dated 2005-01-31
- [T2] Report of the approval of different changes of the GuardLogix Controller
Report-No.: 968/EZ 191.01/05 dated 2005-11-07
- [T3] Report of the additional type approval of GuardLogix-SIL 3-Controller of Rockwell Automation
Report-No.: 968/EZ 191.02/07 dated 2007-01-31
- [T4] Report of the additional type approval of GuardLogix-SIL 3-Controller of Rockwell Automation
Report-No.: 968/EZ 191.03/07 dated 2007-04-30
- [T5] Report of the approval of different changes of the GuardLogix Controller of Rockwell
Automation
Report-No.: 968/EZ 191.04/07 dated 2007-10-29
- [T6] Report of the approval of different changes of the GuardLogix Controller V16.21 of Rockwell
Automation
Report-No.: 968/EZ 191.05/08 dated 2008-02-27
- [T7] Test report about the inspection of various function blocks and the additional type approval
of GuardLogix-SIL 3-Controller of Rockwell Automation
Report-No.: 968/EZ 191.06/08 dated 2008-09-15
- [T8] Report of the approval of different changes of the GuardLogix Controller V17.07.59
Report-No.: 968/EZ 191.07/09 dated 2009-08-26

- [T9] Test report about the supplementary type approval and certification of the GuardLogix controller
Report-No.: 968/EZ 191.08/10 dated 2010-03-04
- [T10] Test report on the supplementary type approval and certification of the GuardLogix controller
Report-No.: 968/EZ 191.09/10 dated 2010-03-30
- [T11] Test report on the supplementary type approval and certification of the GuardLogix controller
Report-No.: 968/EZ 191.10/10 dated 2010-10-15
- [T12] 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
- [T13] 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
- [T14] 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
- [T15] 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
- [T16] 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
- [T17] 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
- [T18] 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
- [T19] 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
- [T20] 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
- [T21] 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
- [T22] 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
- [T23] Acknowledgment and statement to product changes
Report-No. 968/EZ 190.02/05 dated 2005-11-30
- [T24] Statement for issuing a Co-Certificate
Report-No. 968/EZ 190.03/09 dated 2005-11-30
- [T25] 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

- [T26] 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
- [T27] 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 GuardLogix Controller 1756-L6xS/ 1756-LSP is type approved (see [T1] to [T11] for details) against the requirements of EN ISO 13849-1:2008, PL e / EN 62061, SIL 3.

In addition to the successfully conducted type approval the conformity of the user documentation and labels was checked regarding the 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 191.10/10 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, 2010-12-08
TIS/ASI/Kst. 968 he-nie

Report released after review:
Date: 2010-12-08

The inspector



Dipl.-Ing. (FH). Andreas Hesse



Dipl.-Ing. Stephan Hüb