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# Technical Report

for

## NFPA 79 Listing

of the Safety Contractor SIRIUS 3RT1

### Applicant

Siemens AG

Werner-von-Siemens-Str. 48

D-92224 Amberg

Germany

### Manufacturer

Siemens AG

Werner-von-Siemens-Str. 48

D-92224 Amberg

Germany

**Report № SA91622T**

Revision: 1.0, Date 2017-10-11

### Test Body

TÜV SÜD Rail GmbH  
Generic Safety Systems  
D-80339 Munich

*This report consists of 6 pages.*

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## Revision History

Revision	Date	Author	Status	Modifications
1.0	2017-10-11	Tomislav Paradzik	Initial	-

Table 1: Revision history

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## 1 Target of Evaluation (ToE)

Subject of the approval is the Safety Contractor SIRIUS 3RT1 listed in [D6] from Siemens AG according to NFPA 79. The Project No. related to this Technical Report was as follows: 717511083.

## 2 Purpose of the Document

This report presents the approval results related to an IEC 61508: 2010 certified product. Therefore, the assessment is restricted to the auxiliary requirements demanded by NFPA 79:2015. The underlying test documentation is listed in section 4, the regarded standard/s in section 3.

## 3 Basis of Testing

The regulations and guidelines which form the basis of the type testing are listed below.

No.	Standard	Title
[L1]	NFPA 79:2015	Electrical Standard for Industrial Machinery

## 4 Documents Provided for Testing of SIRIUS 3RT1

The following documents were provided by Siemens AG to be checked and evaluated by the test house.

No.	Title	Document-No./ File identifier	Revision	Date
[D1]	Modultestprotokoll	CONTACTORS_managem ent_report__SIRIUS_3RT 1.SAFETY.INT.10.15.html	-	2016-12-01
[D2]	Hardwarefehlerversuche, alle Baugrößen	SIL_Contactors_Hw_Fehle rversuche_V0.90.xlsm	V0.90	2017-02-17
[D3]	Hardwarefehlerversuche, TÜV- Audit	SIL_Contactors_HW_Fehle rversuche_TÜV.xlsm	-	2017-02-17

No.	Title	Document-No./ File identifier	Revision	Date
[D4]	EMV- Prüfberichte	17-E006912-BM-A01 SIRIUS Safety PLC input contactors_report for IEC60947-4-1 standard.pdf; 17-E006912-BM-B01 SIRIUS Safety PLC input contactors_report for IEC61000-6-7 standard.pdf; 17-E006912-BM-C01 SIRIUS Safety PLC input contactors_report for NFPA79 standard.pdf		2016-11-22
[D5]	Betriebsanleitung	5560260-10_RS- AA_003_3RT1x5_6_Schüt z_S6-S12_20161213.pdf	RS- AB/004	2016-12-14
[D6]	Gerätehandbuch	manual_SIRIUS_contactor s_3RT_20161213_TÜV.pdf	RS- AD/005	2016-12-14
[D7]	Typprüfprotokoll	Typprüfprotokoll(Phase9)_ 3RT1.pdf Report_16015_04_S6 SIL Coil.pdf Report_16015_05_S12 SIL Coil.pdf		2016-12-01

Table 2: Documentation

## 5 Performance and Result of Tests

### 5.1 Test Reports

Following test reports were issued by TÜV SÜD Rail GmbH or other accredited test laboratories.

No.	Title	Document-No./ File identifier	Revision	Date
[R1]	Certifikate TÜV SÜD on Functional Safety	Z10 17 03 38717 057	-	2017-03-24
[R2]	Certifikate TÜV SÜD on EC Machinery Directive 2006/42/EC	M8B 17 03 38717 058	-	2017-03-24
[R3]	Technical Report	SA90683T	1.2	2017-10-05
[R4]	Checklist NFPA79:2015	NFPA79_Checkliste_2017 1005.pdf	1.2	2017-10-11

Table 3: Test results

## 5.2 Description of the Assessment

Based on the Checklist for NFPA 79 compliance [R4], TÜV SÜD Rail GmbH has assessed the test documents [D1] - [D7] for the Safety Contractor SIRIUS 3RT1.

### Result:

The results and completeness of the tests performed and documented by the customer have been verified and compared with the requirements of NFPA79. The necessary tests for an approval in accordance to NFPA 79:2015 have been performed and documented adequately.

## 5.3 Identification

The device types listed in Table 4 by nomenclature, order number (MLFB), HW revision and FW revision were subject to testing.

Name	Type Numbers (MLFB) <sup>1</sup>	HW	FW
Safety PLC Input Contactor S6	<u>3RT1.5.-.S.36</u>	*E01*	V1.0.1_02
Safety PLC Input Contactor S10	<u>3RT1.6.-.S.36</u>	*E01*	V1.0.1_02
Safety PLC Input Contactor S12	<u>3RT1.7.-.S.36</u>	*E01*	V1.0.1_02

Table 4: EuT type identification

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<sup>1</sup> . (dot) is a placeholder for any character



## 6 Summary

The Safety Contractor SIRIUS 3RT1 complies with the relevant requirements of NFPA 79, if the conditions and restrictions of the related user manuals are met.

Application specific requirements of NFPA 79 which are not part of this assessment shall be regarded for the safety instrumented system on site.

Christian Dirmeier  
Reviewer

Tomislav Paradzik  
Project Manager