



Choose certainty.
Add value.

Technical Report

for

NFPA 79 Listing

of the Safety Components / Safety relay 3SK2

Applicant

Siemens AG
Breslauer Straße 5
90766 Fürth
Germany

Manufacturer

Siemens AG
Breslauer Straße 5
90766 Fürth
Germany

Report № SA86863T

Revision: 1.0, Date 2015-07-23

Test Body

TÜV SÜD Rail GmbH
Generic Safety Systems
D-80339 Munich

This report consists of 5 pages.

This technical report may be represented only in complete wording. The use for promotion needs written permission. It contains the result of a unique investigation of the product being tested and places no generally valid judgment about characteristics out of the running fabrication. Official translations of this technical report are to be authorized by the test and certification agency.

Revision History

Revision	Date	Author	Status	Modifications
1.0	2015-07-23	Axel Köhnen	Initial	-

Table 1: Revision history

Content

Revision History	2
Content	2
List of Tables	2
1 Target of Evaluation (ToE)	3
2 Purpose of the Document	3
3 Basis of Testing	3
4 Documents Provided for Testing of 3SK2	3
5 Performance and Result of Tests	4
5.1 Test Reports	4
5.2 Description of the Assessment	4
5.3 Identification	5
6 Summary	5

List of Tables

Table 1: Revision history	2
Table 2: Documentation	4
Table 3: Test results	4
Table 2: Identification of 3SK21x2	5

1 Target of Evaluation (ToE)

Subject of the approval is the safety-related Safety Components / Safety relay 3SK2 in two variants from Siemens AG according to NFPA 79. The Project No. related to this Technical Report was as follows: 717507104.

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 3SK2

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]	Test Report Vibration/Shock Test	Prüfbericht 13078ENV01.pdf	-	2014-09-30
[D2]	User Manual	A5E32639619002ARS- AA001_manual_safety_rel ays_3SK2_EN.pdf	001	2015-05
[D3]	Test Report on Damp Heat	Prüfbericht 13078ENK.pdf	-	2014-09-24
[D4]	Test Report on EMC Measurements (Immunity and Emissions) according to IEC 60947-5-1:/A1:2009	15-E006004-BM-A02 MSS Compact_CE- Bericht_IEC60947-5-1.pdf	02	2014-11-05

No.	Title	Document-No./ File identifier	Revision	Date
[D5]	Test Report on EMC Measurements according to IEC 61326-1:2008	15-E006004-BM-B02 MSS Compact_CE-Bericht_IEC61326-3-1.pdf	02	2014-11-05
[D6]	Test Report on EMC Measurements According to NFPA79:2015	15-E006004-BM-A02 MSS Compact_CE-Bericht_IEC60947-5-1.pdf	02	2014-11-05
		15-E006004-BM-B02 MSS Compact_CE-Bericht_IEC61326-3-1.pdf	02	2014-11-05
[D7]	Test summary on IEC 60947-5-1 and IEC 60947-1	3232 Test summary 3RK315_2014-06-04.pdf	-	2014-09-11

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]	Certificate TÜV SÜD on Functional Safety	Z10 15 06 38717 025	-	2015-06-24
[R2]	Report on Certificate ([R1])	SA86655C	1.0	2013-06-24
[R3]	Technical Report	SA86655C	1.0	2015-06-23
[R4]	Checklist NFPA79:2015	20150413_NFPA_79_Checkliste_3SK2_v1.0.docx	1.0	2015-06-03

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 Components / Safety relay 3SK2.

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 system tested is identified by hardware and software version


MLFB	Date	SW	HW	Remarks
3SK2112-xAA10	2015-05-12	V 1.00.33	A5E03548404001B / 004	22,5 mm: 2 safety outputs, diagnostic LEDs
3SK2122-xAA10	2015-05-12	V 1.00.33	-	45 mm; 4 safety outputs, display, diagnostic LEDs
			A5E03648404001C/RS-AB/005	Controller PCB
			A5E03648409001C/RS-AB/004	IO PCB
			A5E03648413001B/RS-AC/003	Operator PCB
			A5E31876663A/RS-AA/002	Connector

Table 4: Identification of 3SK21x2

6 Summary

The Safety Components / Safety relay 3SK2 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.



i.V. Matthias Ramold
Reviewer



i.A. Axel Köhnen
Project Manager