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Technical Report

for

NFPA79 Listing

of the Central Module MSS 3RK3 Advanced

Applicant

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Manufacturer

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Report no. SA84040T

Revision: 1.0, Date 2011-11-30

Test body

TÜV SÜD Rail GmbH

Rail Automation

D-80339 Munich

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Revision history

Revision	Date	Author	Status	Modifications
1.0	2011-11-30	Leonhard Brandl	initial	-

Table 1: Revision history

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1 Target of Evaluation (ToE)

Subject of the approval is the safety-related Central Module MSS 3RK3 Advanced listed in [D2] from Siemens AG according to NFPA 79. The Project No. related to this Technical Report was as follows: 717504957.

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: 2007. 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]	NFPA79:2007	Electrical Standard for Industrial Machinery

4 Documents provided for testing of MSS 3RK3 Advanced

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]	Certifikate TÜV NORD	44 781 11 555285 000	-	2011-08-12
[D2]	Annex 1 to the certificate	44 781 11 555285 000	1	2011-08-12
[D3]	Nameplate (Typenschild)	Typschilder_MSS_3RK313 1_2011_07_05.pdf	-	2011-07-05
[D4]	Test report temperature tests, sine vibration test, mechanical shock test	Nr.: E4357	-	2007-11-12

No.	Title	Document-No./ File identifier	Revision	Date
[D5]	Siemens SIRIUS MSS Central modules – Original User Manual	GWA 4NEB 926 2535-30 DS 02 "2535-30 DS 02_20110314.pdf"	-	2011-02-17
[D6]	Modular Safety System 3RK3 – System Manual 10/2009 (in German)	926 2530-01 DS 02	-	2009-10
[D7]	Integration test AS-i Test case list (Test set)	<i>Ausleitung_Testprotokoll_I ntegrationstest_AS- i(Premke)_V2.0.docx</i>	2.00	2011-07-21
[D8]	Integration test SafetyConnect Test case list (Test set)	<i>Ausleitung_Testprotokoll_I ntegrationstest_SC(Premk e)_V2.0.doc</i>	2.00	2011-07-21
[D9]	Component FMEA	FMEA_MSS_Advanced_V 1.3.xls	1.3	2011-07-05
[D10]	Safety Requirement Specification	MSS SafetyRequirementsSpecifi cation v1-13.pdf	1.13	2011-05-24
[D11]	System Software Design ASIsafe P	Software Design System_V200.pdf	2.00	2011-07-19
[D12]	Peripheral Software Design	Software_Design_Peripheri e_MSS_V1_3.docx	1.3	2008-06-20
[D13]	Environmental tests report	Test Report No. 09025TEk	-	2009-05-13
[D14]	EMC measurements	10-E004181-BM-A01	-	2009-07-02
[D15]	EMC measurements	10-E004181-BM-B01	-	2009-07-02
[D16]	EMC measurements	10-E004181-BM-C01	-	2009-07-02
[D17]	EMC measurements	10-E004181-BM-D01	-	2009-07-02

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]	Technical Report	SA84040T	1.0	2011-11-30
[R2]	Review Report	Review_Report_NFPA79_V1_3_2011-11-30.docx	1.3	2011-11-30
[R3]	Checklist NFPA79	Checkliste_NFPA79_2007_MSS_Adv_2011_11_30_TUeV.docx	1.1	2011-11-30

Table 3: Test results

5.2 Description of the assessment

Based on the Checklist for NFPA compliance [R3], TÜV SÜD Rail GmbH has assessed the test documents [D1] - [D17] for the Central Module MSS 3RK3 Advanced.

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 79:2007 have been performed and documented adequately.

5.3 Identification

Component	Order number (MLFB)	Identification	Firmware version
3RK3 Advanced	3RK3131-xAC10	Central Module	V1.00.0027
	x = 1: screw-type terminals model x = 2: spring-type terminals model		

Table 4: EuT type identification



6 Summary

The Central Module MSS 3RK3 Advanced 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.

A handwritten signature in black ink, appearing to be 'M. Ramold'.

i.V. Matthias Ramold
Reviewer

A handwritten signature in black ink, appearing to be 'L. Brandl'.

i.A. Leonhard Brandl
Project Manager