

CERTIFICATE OF COMPLIANCE

Certificate Number 20170713 - E47705
Report Reference E47705 - 20090617
Issue Date 2017-JULY-13

Issued to: SIEMENS AG
DF CP R&D VC 2
WERNER-VON-SIEMENS-STRASSE 48
92224 AMBERG, GERMANY

This is to certify that representative samples of MOTOR CONTROLLERS, MANUAL
(See following page for additional information.)

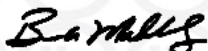
Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: ANSI/UL 60947-1, "Low-Voltage Switchgear and Controlgear - Part 1: General Rules," and ANSI/UL 60947-4-1, "Low-Voltage Switchgear and Controlgear - Part 4-1: Contactors and Motor-Starters - Electromechanical Contactors and Motor-Starters." CAN/CSA-C22.2 No. 60947-1 (2013), "Low-Voltage Switchgear and Controlgear - Part 1: General Rules," and CAN/CSA-C22.2 No. 60947-4-1 (2014), "Low-Voltage Switchgear and Controlgear - Part 4-1: Contactors and Motor-Starters - Electromechanical Contactors and Motor-Starters."

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Products Covered:

USL, CNL - Type Nos. 3RV20, 3RV21, 3RV23 or 3RV24, followed by 11, 21 or 23, followed by -0A, -0B, -0C, -0D, -0E, -0F, -0G, -0H, -0J, -0K, -1A, -1B, -1C, -1D, -1E, -1F, -1G, -1H, -1J, -1K, -4A, -4B, -4C, -4D, -4E, -4F, -4N or -4P followed by A or C, followed by 1, 2 or 4, followed by 0, 1, 2, 3, 4 or 5. May be followed by additional numbers and letters for manufacturers use.

Accessory Terminal Cover – Type No. 3RV2928-4AA00.

General:

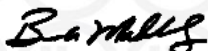
These devices are open type 3-pole manual motor controllers for starting and stopping motors which may be connected directly across the line. They are adjusted over a small range as indicated in the setting range table. They are provided with integral ambient compensated, non-replaceable thermal trip features and are suitable for providing overload protection and motor disconnect. The trip current is 125 percent of the FLA shown on dial. Line or load side of the main terminals may be used in reverse also.

Type 3RV23 is identical to the standard series device but thermal overload trip is out of function.

Type 3RV21 is identical to the standard series device but with no motor overload function. The internal overload tripping system does not trip the controller, however it trips the attached trip module for indication to remote panels.

Type 3RV24 is identical to the standard series device but instantaneous tripping is adjusted to 19 x I_e.

These devices may be provided with certified accessories of Type 3RV19, 3RV29, 8US1, including auxiliary switches, door coupling rotary mechanism, tripping units, bus bar assembly and short circuit indicators..



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Ratings:

Horsepower Setting Range 0.9-1.25 A (-0K)

<u>Voltage</u>	<u>Horsepower 1-ph</u>	<u>Horsepower 3-ph</u>
115/120 V	-	-
200/208 V	-	-
230/240 V	-	-
*460/480 V	-	3/4
*575/600 V	-	3/4

Horsepower Setting Range 1.1-1.6 A (-1A)

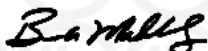
<u>Voltage</u>	<u>Horsepower 1-ph</u>	<u>Horsepower 3-ph</u>
115/120 V	-	-
200/208 V	-	-
*230/240 V	1/10	1/2
*460/480 V	-	1
*575/600 V	-	1

Horsepower Setting Range 1.4-2 A (-1B)

<u>Voltage</u>	<u>Horsepower 1-ph</u>	<u>Horsepower 3-ph</u>
115/120 V	-	-
200/208 V	-	-
*230/240 V	1/6	1/2
*460/480 V	-	1
575/600 V	-	1 1/2

Horsepower Setting Range 1.8-2.5 A (-1C)

<u>Voltage</u>	<u>Horsepower 1-ph</u>	<u>Horsepower 3-ph</u>
*115/120 V	1/10	-
200/208 V	1/6	1/2
*230/240 V	1/4	3/4
460/480 V	-	1 1/2
*575/600 V	-	2



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Horsepower Setting Range 2.2-3.2 A (-1D)

<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	1/8	-
200/208 V	1/4	3/4
230/240 V	1/3	1
460/480 V	-	2
575/600 V	-	3

Horsepower Setting Range 2.8-4 A (-1E)

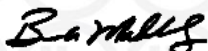
<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	1/6	1/2
200/208 V	1/3	1
230/240 V	1/2	1
460/480 V	-	3
575/600 V	-	3

Horsepower Setting Range 3.5-5 A (-1F)

<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	1/4	1/2
200/208 V	1/2	1 1/2
230/240 V	1/2	1 1/2
460/480 V	-	3
575/600 V	-	5

Horsepower Setting Range 4.5-6.3 A (-1G)

<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	1/4	3/4
200/208 V	1/2	2
*230/240 V	3/4	2
460/480 V	-	5
575/600 V	-	5



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Horsepower Setting Range 5.5-8 A (-1H)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1/3	1
200/208 V	1	2
230/240 V	1	3
460/480 V	-	5
575/600 V	-	7 1/2

Horsepower Setting Range 7-10 A (-1J)

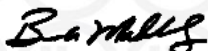
Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1/2	1 1/2
200/208 V	1 1/2	3
230/240 V	1 1/2	3
460/480 V	-	7 1/2
575/600 V	-	10

Horsepower Setting Range 9-12.5 A (-1K)

Voltage	Horsepower 1-ph	Horsepower 3-ph
*115/120 V	3/4	1 1/2
*200/208 V	2	3
*230/240 V	2	5
460/480 V	-	7 1/2
575/600 V	-	10

Horsepower Setting Range 10-16 A (-4A) for 3RV2.1 only

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1	2
200/208 V	2	3
230/240 V	2	5
460/480 V	-	10
*575/600 V	-	-



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Horsepower Setting Range 10-16 A (-4A) for 3RV2.2 only

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1	2
200/208 V	2	5
230/240 V	3	5
460/480 V	-	10
575/600 V	-	10 ¹⁾

Horsepower Setting Range 13-20 A (-4B)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1 ½	3
*200/208 V	3	7 1/2
*230/240 V	3	7 1/2
*460/480 V	-	15
575/600 V	-	15 ¹⁾

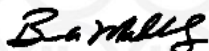
Horsepower Setting Range 16-22 A (-4C)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1 ½	3
*200/208 V	3	7 1/2
230/240 V	3	7 ½
460/480 V	-	15
575/600 V	-	20 ¹⁾

Horsepower Setting Range 18-25 A (-4D)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	2	3
200 V	3	7 1/2
208 V	3	7 1/2
230/240 V	3	7 1/2
460/480 V	-	20
575/600 V	-	20 ¹⁾

1): Only 3RV2.23 are rated for 600V.



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Horsepower Setting Range 23-28 A (-4N)

<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	2	3
200/208 V	3	7 1/2
230/240 V	5	10
460/480 V	-	20
575/600 V	-	-

Horsepower Setting Range 27-32 A (-4E)

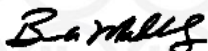
<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	2	5
*200 V	3	10
208 V	5	10
230/240 V	5	10
460/480 V	-	20
575/600 V	-	-

Horsepower Setting Range 30-36 A (-4P)

<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	3	5
200/208 V	5	10
230/240 V	5	10
460/480 V	-	25
575/600 V	-	-

Horsepower Setting Range 34-40 A (-4F)

<u>Voltage</u>	<u>Horsepower</u> <u>1-ph</u>	<u>Horsepower</u> <u>3-ph</u>
115/120 V	3	5
200/208 V	5	10
230/240 V	7 1/2	10
460/480 V	-	30
575/600 V	-	-



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3RV2.11 and 3RV2.21 only: General Purpose: 600 V AC, (Up to 12.5 A, until -1K-Version, see Nomenclature Breakdown for Individual Ampere Rating)

3RV2.23 only: General Purpose: 600 V AC, (12.5 A Up to 25 A, from -1K until -4D-Version, see Nomenclature Breakdown for Individual Ampere Rating)

General Purpose: 480 V AC, (See Nomenclature Breakdown for Individual Ampere Rating)

FLA Ratings: (See Nomenclature Breakdown for individual FLA ratings)

36A and 40A-Version only: Surrounding air temperature 40°C.

Pilot Duty rating for 3RV21 trip module outputs 1 NO + 1 NC: C600, R300 opposite polarity

Short-Circuit Ratings:

3RV2.11 and 3RV2.21 only:

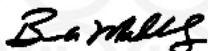
240 V, 3 phase, 65,000 rms sym. Amperes for ratings up to 40 A
480 V, 3 phase, 65,000 rms sym. amperes for ratings 0.11 up to 25 A
480 V, 3 phase, 50,000 rms sym. Amperes for ratings 28 up to 32 A
480 V, 3 phase, 12,000 rms sym. Amperes for ratings 36 up to 40 A
600 V, 3 phase, 30,000 rms sym. Amperes for ratings 0.11 up to 12.5 A

Maximum Short-circuit rating in Group Installations:

240 V, 3 phase, 65,000 rms sym. Amperes for ratings up to 40 A
480 V, 3 phase, 65,000 rms sym. amperes for ratings 0.11 up to 25 A
480 V, 3 phase, 50,000 rms sym. Amperes for ratings 28 up to 32 A
480 V, 3 phase, 12,000 rms sym. Amperes for ratings 36 up to 40 A
600 V, 3 phase, 30,000 rms sym. Amperes for ratings 0.11 up to 12.5 A

These devices were tested for group installation use at the above levels without any upstream branch circuit device.

Branch Circuit Protective device: The appropriate BCPD need to be determined in accordance with the National Electrical Code, Article 430-53 and the application.



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The following devices are suitable for tap conductor protection in group applications (3RV20 only, except 3RV2023) and/or over current protection for control transformers in group applications with the following ratings:

Setting range	Voltage	Short Circuit
0.11 – 25 A (Version -0A up to -4D)	240 V	65 kA
28 A – 32 A (Version -4N and -4E)	240 V	50 kA
0.11 – 25 A (Version -0A up to -4D)	480Y/277 V	65 kA
28 A – 32 A (Version -4N and -4E)	480Y/277 V	50 kA
0.11 – 12.5 A (Version -0A up to -1K)	600Y/347 V	30 kA

These devices are suitable to provide over current protection for control transformers.

These devices are suitable as motor disconnect.

3RV2.23 only:

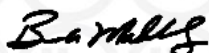
Maximum Short-circuit rating in Group Installations:
600 V, 3 phase, 5,000 rms sym. Amperes for ratings 12.5 up to 25 A

These devices were tested for group installation use at the above levels without any upstream branch circuit device.

Branch Circuit Protective device: The appropriate BCPD need to be determined in accordance with the National Electrical Code, Article 430-53 and the application.

600 V, 3 phase, 30,000 rms sym. Amperes for ratings 12.5 up to 25 A when protected by max. 200A Class J Fuse

These devices are suitable as motor disconnect.



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NOMENCLATURE BREAKDOWN

3RV20	21	-4A	A	1	8
I	II	III	IV	V	VI

I. Basic Type

3RV20 -	Manual Motor Controller for motor protection
3RV21 -	Manual Motor Controller for motor protection with overload function (Only up to 32A)
3RV23 -	Manual Motor Controller for starter combination
3RV24 -	Manual Motor Controller for transformer protection (Only up to 25A)

II. Size of terminal for main circuit

11 -	Up to 16 A (rated for 600V only up to 12.5A)
21 -	Up to 40 A (rated for 600V only up to 12.5A)
23 -	Only for setting ranges 12.5 to 25 A

III. Setting Ranges

Suffix	From	to (A)	max. Fuse or CB for 3RV2.11, 3RV2.21*	max. Fuse Class J for 3RV2.23*
-0A	0.11	0.16	15 A	-
-0B	0.14	0.2	15 A	-
-0C	0.18	0.25	15 A	-
-0D	0.22	0.32	15 A	-
-0E	0.28	0.4	15 A	-
-0F	0.35	0.5	15 A	-
-0G	0.45	0.63	15 A	-
-0H	0.55	0.8	15 A	-
-0J	0.7	1	15 A	-
-0K	0.9	1.25	15 A	-
-1A	1.1	1.6	15 A	-
-1B	1.4	2	15 A	-
-1C	1.8	2.5	15 A	-
-1D	2.2	3.2	15 A	-
-1E	2.8	4	15 A	-
-1F	3.5	5	20 A	-
-1G	4.5	6.3	25 A	-
-1H	5.5	8	30 A	-
-1J	7	10	40 A	-
-1K	9	12.5	50 A	50 A
-4A	10	16	60 A	60 A

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-4B	13	20	80 A	80 A
-4C	16	22	80 A	80 A
-4D	18	25	100 A	100 A
-4E	27	32	125 A	-
-4F	34	40	150 A	-
-4N	23	28	110 A	-
-4P	30	36	1 2 5 A	-

When used as manual motor starter but not in group installation applications

IV. Tripping Class

- A Setting ranges with instantaneous tripping and overload tripping Class 10.
- C With instantaneous tripping and without overload tripping.

V. Type of Terminals

- 1 Screw Terminal
- 2 Spring terminals (Only up to 32A)
- 4 Ring lug terminals (Only up to 32A)

VI. Auxiliary Switches

(Combinations with certified accessories Type 3RV29...)

- 0 without
- 1 1NO + 1NC, side mounted
- 2 2NO, side mounted
- 3 2NC, side mounted
- 4 1NO/NC Changeover, top mounted
- 5 1NO + 1NC, top mounted

3RV2928-4AA00 - Terminal cover for ring-lug-terminals

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MARINE DIVISION

Certificate number: 25357/A1 BV

File number: ACE2/124/3

Product code: 2633H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

Siemens AG - I IA CE

Amberg - GERMANY

for the type of product

CIRCUIT BREAKERS (LOW VOLTAGE)

SIRIUS 3RV20, 3RV21, 3RV23, 3RV24, 3RV27, 3RV28
and Accessories

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
IEC 60947-2, IEC 60947-4-1, IEC 60947-5-1

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 Nov 2016

For BUREAU VERITAS,

At BV HAMBURG, on 12 Aug 2013,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

SIRIUS 3RV20, 3RV21, 3RV23, 3RV24, 3RV27 and 3RV28 series are circuit breakers and **3RV19, 3RV29 and 8US** are accessories.

1.1 - Main characteristics of 3RV20/21/23/24/27/28:

Rated voltage: 690V AC- 50/60Hz
 Rated current: up to 40A (40°C)
 Degree of protection: IP20 (Terminal compartment: IP00)

1.2 - Type: 3RV2a bb - cc d e f

a = Function

- 0 circuit breaker for motor protection
- 1 circuit breaker for motor protection with overload function (up to 32A)
- 3 circuit breaker for starter combination
- 4 circuit breaker for transformer protection (up to 25A)
- 7 circuit breaker adjusted to 13 times rated current
- 8 circuit breaker adjusted to 20 times rated current

bb = Size of terminal for main circuit

- 11 Up to 16A
- 21 Up to 40A (not for 3RV27, 3RV28)
- 21 20A ... 22A (for 3RV27, 3RV28)
- 23 12.5 ... 25A

cc = Setting Ranges

For Type:

		3RV2x11						3RV2x21						3RV2x23	
		240VAC		440VAC		690VAC		240VAC		440VAC		690VAC		690VAC	
		ICU [kA]	ICS [kA]	ICU [kA]	ICS [kA]	ICU [kA]	ICS [kA]	ICU [kA]	ICS [kA]	ICU [kA]	ICS [kA]	ICU [kA]	ICS [kA]	ICU [kA]	ICS [kA]
0A	0.11 ... 0.16 A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0B	0.14 ... 0.2A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0C	0.18 ... 0.25A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0D	0.22 ... 0.32A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0E	0.28 ... 0.4A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0F	0.35 ... 0.5A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0G	0.45 ... 0.63A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0H	0.55 ... 0.8A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0J	0.7 ... 1A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
0K	0.9 ... 1.25A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
1A	1.1 ... 1.6A	100	100	100	100	100	100	100	100	100	100	100	100	-	-
1B	1.4 ... 2A	100	100	100	100	10	10	100	100	100	100	10	10	-	-
1C	1.8 ... 2.5A	100	100	100	100	10	10	100	100	100	100	10	10	-	-
1D	2.2 ... 3.2A	100	100	100	100	10	10	100	100	100	100	10	10	-	-
1E	2.8 ... 4A	100	100	100	100	6	4	100	100	100	100	6	4	-	-
1F	3.5 ... 5A	100	100	100	100	6	4	100	100	100	100	6	4	-	-
1G	4.5 ... 6.3A	100	100	100	100	6	4	100	100	100	100	6	4	-	-
1H	5.5 ... 8A	100	100	50	50	6	4	100	100	50	50	6	4	-	-
1J	7 ... 10A	100	100	50	50	6	4	100	100	50	50	6	4	-	-
1K	9 ... 12.5A	100	100	50	50	6	4	100	100	50	50	6	4	6	4
4A	11 ... 15A *	100	100	50	10	4	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4A	11 ... 16A	100	100	50	10	4	4	100	100	50	10	4	2	4	2
4B	14 ... 20A							100	100	50	10	4	2	4	2
4C	17 ... 22A							100	100	50	10	4	2	4	2
4D	20 ... 25A							100	100	50	10	4	2	4	2
4N	23 ... 28A							100	100	30	10	4	2		
4E	27 ... 32A							100	100	30	10	4	2		
4P	30 ... 36A							100	100	12	8	3	2		
4F	34 ... 40A							100	100	12	8	3	2		

d = Tripping Class

- A Setting ranges with instantaneous tripping and overload tripping Class 10
- C With instantaneous tripping and without overload tripping
- D With instantaneous tripping and fixed current overload tripping *

e = Type of Terminals

- 1 Screw terminal
- 2 Spring terminals (up to 32A)
- 4 Ring lug terminals (up to 32A)

f = Auxiliary Switches: Type 3RV29

- 0 without
- 1 1NO + 1NC, side mounted
- 2 2NO, side mounted
- 3 2NC, side mounted
- 4 1NO/NC Changeover, top mounted
- 5 1NO + 1NC, top mounted

* for 3RV27, 3RV28

1.3 - Accessories:**3RV29...** : Auxiliary switches, undervoltage trip units, shunt releases, infeed system, ...**3RV19...** : 3-phase bus bar equipment**8US1251:** Bus bar adapter for 60mm systems**2. DOCUMENTS AND DRAWINGS:**

- Catalogue: IC 10N dated 12/2012
- Drawings: NEZ461200100000 Rev. 04 dated 2010-06-15, NEZ461200600000 Rev. 04 dated 2009-12-17
- 4NEB4612582-20DS01 dated 08 June 2010, 4NEB4612580-10DS02 dated 10 March 2010
- NEB461258010000/RS-AA/004 dated 01 August 2012; NEB461258230000/RS-AA/002 dated 30 July 2012

3. TEST REPORTS:**SIEMENS AG:** - 09052TMs dated 2010-07-27; 13012ENS dated 2013-02-27; Test certificate: 3003c dated 2012-11-21**4. APPLICATION / LIMITATION:**

4.1 - According to Bureau Veritas Rules for the Classification of Steel Ships.

4.2 - Bureau Veritas Environmental Category, **EC Code: 31****5. PRODUCTION SURVEY REQUIREMENTS:**5.1 - The above products are to be manufactured, examined and tested by **SIEMENS AG, I IA CE**, in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.5.2-Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **SIEMENS AG, I IA CE**, has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.5.3 - **SIEMENS AG, I IA CE**, has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production sites.

For 3RV2 and 3RV29:

SIEMENS AG, I IA CE
Werner-von-Siemens-Str. 48
92220 AMBERG
GERMANY

For 3RV1917, 3RV2917, 3RV29 aux. cont; UVR; STR:

Siemens SAN. VE TIC. A S
Yakacik Cad. No: 111
34870 Kartal-Istanbul
TURKEY

5.4 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT:

According to IEC 60947 specifications.

7. OTHERS:7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time, and that **SIEMENS AG, I IA CE - GERMANY**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate cancels and replaces the previous one issued by the Society on 07 Nov 2011, under ref. N° 25357/A0 BV.

***** END OF CERTIFICATE *****

EU-Konformitätserklärung / *EU Declaration of Conformity*

Produktbezeichnung: Leistungsschalter und Zubehör
Product identification *Circuit breaker and accessories*
3RV2.1, 3RV2.2, 3RV2.3, 3RV2.4, 3RV29

Hersteller: Siemens AG, DF CP
Manufacturer

Anschrift: DE-92220 Amberg
Address

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:

Niederspannungsrichtlinie:

2014/35/EU Richtlinie des Europäischen Parlaments und des Rates vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung elektrischer Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen auf dem Markt; Amtsblatt der EU L96, 29/03/2014, S. 357–374

EMV-Richtlinie:

2014/30/EU Richtlinie des Europäischen Parlaments und des Rates vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit; Amtsblatt der EU L96, 29/03/2014, S. 79–106

RoHS-Richtlinie:

2011/65/EU Richtlinie des Europäischen Parlaments und des Rates vom 8. Juni 2011 zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten; Amtsblatt der EU L174, 1/07/2011, S. 88–110

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Low Voltage Directive:

2014/35/EU Directive of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits; Official Journal of the EU L96, 29/03/2014, p. 357–374

EMC Directive:

2014/30/EU Directive of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility; Official Journal of the EU L96, 29/03/2014, p. 79–106

RoHS Directive:

2011/65/EU Directive of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment; Official Journal of the EU L174, 1/07/2011, p. 88–110

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, ist jedoch keine Beschaffenheits- oder Haltbarkeitsgarantie. Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten.

This declaration is an attestation of conformity with the indicated Directive(s) but does not imply any guarantee of quality or durability. The safety instructions of the accompanying product documentation shall be observed.

Siemens Aktiengesellschaft: Vorsitzender des Aufsichtsrats: Gerhard Cromme; Vorstand: Joe Kaeser, Vorsitzender; Roland Busch, Lisa Davis, Klaus Helmrich, Janina Kugel, Siegfried Russwurm, Ralf P. Thomas; Sitz der Gesellschaft: Berlin und München, Deutschland; Registergericht: Berlin Charlottenburg, HRB 12300, München, HRB 6684; WEEE-Reg.-Nr. DE 23691322

Die Übereinstimmung des bezeichneten Produkts mit den Vorschriften der angewandten Richtlinie(n) wird nachgewiesen durch die vollständige Einhaltung folgender Normen / Vorschriften:

The conformity of the product described above with the provisions of the applied Directive(s) is demonstrated by full compliance with the following standards / regulations:

Normen / standards:

Referenznummer
Reference number

EN 60947-2:2006/A1:2009/A2:2013

EN 50581:2012

EN 60947-4-1:2010/A1:2012

EN 60947-5-1:2004/A1:2009

Unterzeichnet für und im Namen von: / signed for and on behalf of:

Siemens Aktiengesellschaft

Amberg

2016-08-11

Ort / place

Datum der Ausstellung / date of issue

Peter Hartinger
Head of Verification and Certification

Markus Meier
Head of Project Management Electronics

i.V.

Name / name
Funktion / function

Unterschrift / signature

i.V.

Name / name
Funktion / function

Unterschrift / signature

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, ist jedoch keine Beschaffenheits- oder Haltbarkeitsgarantie. Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten.

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Sitz der Gesellschaft: Berlin und München, Deutschland, Registergericht: Berlin Charlottenburg, HRB 12300, München, HRB 6684; WEEE-Reg.-Nr. DE 23691322

Typprüfbescheinigung / Type Test Certificate

Erzeugnis / Product: **Circuit Breaker**

Typ: **3RV2.1, 3RV2.2, 3RV2.3**
Type: **3RV2.4, 3RV19, 3RV29**

Tech. Daten: **$U_{e\ max} = 690V$, $I_{e\ max} = 100A$**
Specification:

Hersteller: **Siemens AG**
Manufacturer: **DF CP**

Art der Prüfung / Type of test: **Noise and Shock (Railway Applications)**

Prüfer / **Mr. Pilhöfer**
Tested by:

Labor / **LOVAG registered and DAkkS accredited**
Laboratory: **Testing Laboratory**
Siemens AG, Amberg

Angewandte Prüfbestimmungen / Test specifications applied:
IEC 61373:2010-05

Durchgeführte Prüfungen / Tests conducted:

Railway Applications for Category 1, Class B

Noise: **5 – 150 Hz / ASD-level: 0,964 (m/s²)²/Hz / RMS value: 5,592 m/s² / 5h**
5 – 150Hz / ASD-level: 0,031 (m/s²)²/Hz / RMS value: 0,987 m/s² / 10 min

Shock: **half-sine; 50m/s² or 30m/s² / 30ms; 3 x positive shocks and 3x negative shocks**

Prüfergebnis / Test results:

All requirements of the test specification are met.

Bemerkungen / Remarks: **Issued: 2010-07-27**

Accessories are also covered by the Product Description and Test Summary.

Index a, dated 2015-07-31: 3RV2.3 added. Test-report 09001TMv03 replaced by Product description and test summary 3020a. Standard updated

Index b, dated 2017-03-23: 3RV2.4 added. Product description and test summary 3020a replaced by Product description and test summary 3020b.

i.V.

DF CP R&D VC Mr. Hartinger

i.V.

DF CP R&D PMM Mr. Royer

Type designation: 3RV2.

Manufacturer: **Siemens AG, DF CP**
Werner-von-Siemens-Str. 48, 92220 Amberg

Production site: **Siemens AG, DF CP**
Werner-von-Siemens-Str. 29, 93413 Cham

Siemens, s.r.o.
Nízkonapěťová spínací technika Works
541 01 Trutnov, Volanovska 516
Czech Republic

Series: 3RV2...

3RV20	41	-4A	A	1	8	..
I	II	III	IV	V	VI	VII

I. Basic Type

3RV20 – Circuit Breaker for motor protection
 3RV21 - Circuit Breaker for motor protection with overload function
 3RV23 - Circuit Breaker for starter combination
 3RV24 - Circuit Breaker for transformer protection

II. Size of terminal for main circuit

11 – Up to 16 A, Size S00
 21 – up to 40 A, Size S0
 23 - only for setting ranges 12.5 up to 25 A, Size S0
 31 – from 14 A up to 80 A, standard short circuit breaking capacity, 65kA / 400V,
 Size S2
 32 – from 14 A up to 80 A, higher short circuit breaking capacity, 100kA / 400V
 Size S2
 41- from 40 A up to 100 A, standard short circuit breaking capacity, 65kA / 400V, Size S3
 42- from 40 A up to 100 A, higher short circuit breaking capacity, 100kA / 400V, Size S3

III. Setting Ranges

Suffix	from	to (A)	Size
-0A	0.11	0.16	S00, S0
-0B	0.14	0.2	S00, S0
-0C	0.18	0.25	S00, S0
-0D	0.22	0.32	S00, S0
-0E	0.28	0.4	S00, S0
-0F	0.35	0.5	S00, S0
-0G	0.45	0.63	S00, S0
-0H	0.55	0.8	S00, S0
-0J	0.7	1	S00, S0
-0K	0.9	1.25	S00, S0
-1A	1.1	1.6	S00, S0
-1B	1.4	2	S00, S0
-1C	1.8	2.5	S00, S0
-1D	2.2	3.2	S00, S0
-1E	2.8	4	S00, S0
-1F	3.5	5	S00, S0
-1G	4.5	6.3	S00, S0
-1H	5.5	8	S00, S0
-1J	7	10	S00, S0
-1K	9	12.5	S00, S0
-4S	9.5	14	S2
-4A	10	16	S00, S0
-4T	12	17	S2
-4B	13	20	S0
-4B	14	20	S2
-4C	16	22	S0
-4D	18	25	S0, S2
-4N	23	28	S0

Nomenclature breakdown

Certificate No.: 3020b

-4E	27	32	S0
-4E	22	32	S2
-4P	30	36	S0
-4P	28	36	S2
-4U	32	40	S2
-4F	34	40	S0
-4F	28	40	S3
-4V	35	45	S2
-4W	42	52	S2
-4X	49	59	S2
-4J	54	65	S2
-4K	62	73	S2
-4R	70	80	S2
-4H	36	50	S3
-4J	45	63	S3
-4K	57	75	S3
-4R	65	84	S3
-4Y	75	93	S3
-4M	80	100	S3

IV. Tripping Class

- A - setting ranges with instantaneous tripping and overload tripping Class 10
- B - setting ranges with instantaneous tripping and overload tripping Class 20
- C - with instantaneous tripping and without overload tripping

V. Type of Terminals

- 1 - Screw Terminal
- 2 - spring terminals (only up to 32A)
- 4 - Ring lug terminals (only up to 32A)

VI. Auxiliary Switches

(Combinations with certified accessories Type 3RV29...)

- 0 - without
- 1 - 1NO + 1NC, side mounted
- 2 - 2NO, side mounted
- 3 - 2NC, side mounted
- 4 - 1NO/NC Changeover, top mounted
- 5 - 1NO + 1NC, top mounted
- 6 - 2NO, top mounted

VII. Others

- .. - Manufacturer's identification

3RV2721	-	0A	D	1	0
I		II	III	IV	V

- I. Basic type
- 3RV2711 - circuit Breaker acc. UL489, adjusted to 13 times rated current up to 15 A
 - 3RV2811 - circuit Breaker acc. UL489, adjusted to 20 times rated current up to 15 A
 - 3RV2721 - circuit Breaker acc. UL489, adjusted to 13 times rated current from 20 A up to 22 A
- A
- 3RV2821 - circuit Breaker acc. UL489, adjusted to 20 times rated current from 20 A up to 22 A
- A
- 3RV2742 - circuit Breaker acc. UL489, adjusted to 13 times rated current from 10 A up to 70 A
- A
- II. Rated Current
- 0A - 0.16 A
 - 0B - 0.2 A
 - 0C - 0.25 A
 - 0D - 0.32 A
 - 0E - 0.4 A
 - 0F - 0.5 A
 - 0G - 0.63 A
 - 0H - 0.8 A
 - 0J - 1.0 A
 - 0K - 1.25 A
 - 1A - 1.6 A
 - 1B - 2.0 A
 - 1C - 2.5 A
 - 1D - 3.2 A
 - 1E - 4.0 A
 - 1F - 5.0 A
 - 1G - 6.3 A
 - 1H - 8.0 A
 - 1J - 10 A
 - 5A - 10 A
 - 5R - 10 A
 - 1K - 12.5 A
 - 5B - 15 A
 - 5S - 15 A
 - 4A - 15 A
 - 4B - 20 A
 - 5C - 20 A
 - 4C - 22 A
 - 5D - 25 A
 - 5E - 30 A
 - 5F - 35 A
 - 5G - 40 A
 - 5H - 45 A
 - 5J - 50 A
 - 5L - 60 A
 - 5Q - 70 A
- III. Tripping Class
- D - with instantaneous tripping and fixed current overload tripping
- IV. Type of Terminal
- 1 - Screw Terminals

V. Auxiliary Switches
0 - without

Accessories:

Auxiliary contacts:

3RV2901	-1	A
I	II	III

I - Basic type

3RV2901 -	Auxiliary contact blocks for 3RV2
3RV2921 -	Alarm switch for 3RV2

II - Type of terminals

-1 -	Screw Terminal
-2 -	Spring terminals
-4 -	Ring lug terminals

III - Contact arrangements

A -	1NO + 1NC, side-mounting
B -	2NO, side-mounting
C -	2NC, side-mounting
D -	1NO + 1NC changeover, top-mounting
E -	1NO + 1NC, top-mounting
F -	2NO, top-mounting
G -	1NO + 1NC changeover, top-mounting, micro switch
J -	2NO + 2NC, side-mounting
M -	2NO + 2NC, side-mounting, alarm switch

Undervoltage trip units, Shunt releases:

3RV2902	-1	A	B4
I	II	III	IV

I - Basic type

3RV2902 -	Undervoltage trip units, Shunt releases for 3RV2
3RV2922 -	Undervoltage trip unit with leading auxiliary contacts for 3RV2

II - Type of terminals

-1 -	Screw Terminal
-2 -	Spring terminals
-4 -	Ring lug terminals

III – Type of Accessory

A -	Undervoltage trip unit
C -	Undervoltage trip unit with leading auxiliary contacts
D -	Shunt trip unit

IV – Rated voltage for Undervoltage trip unit

B4 -	24V, dc
B0 -	24V, 50/60Hz
F0 -	110V, 50Hz; 120V, 60Hz
M1 -	208V, 60Hz
P0 -	230V, 50Hz; 240V, 60Hz
V0 -	400V, 50Hz; 440V, 60Hz
V1 -	415V, 50Hz; 480V, 60Hz
S0 -	500V, 50Hz; 600V, 60Hz
G6 -	100V, 50 Hz; 110V, 60Hz
N0 -	220V, 50Hz
N6 -	200V, 50Hz; 220V, 60Hz
Q0 -	380V, 50Hz
U0 -	240V, 50Hz

IV – Rated voltage for Shunt trip unit

B0 -	20-24V, 50/60Hz
F0 -	90-110V, 50/60Hz
P0 -	210-240V, 50/60Hz
V0 -	350-415V, 50/60Hz
S0 -	500V, 50/60Hz

Further accessories

3RV2928-1A	Isolator Module, Size S00, S0
3RV2938-1A	Isolator Module, Size S2
3RV2928-1K	Type E Adapter for screw terminal, Size S00, S0
3RV2938-1K	Type E Adapter for screw terminal, Size S2
3RV2948-1K	Terminal Block with phase barriers
3RT2946-4GA07	Type E Adapter for screw terminal, Size S3
3RT2946-4EA2	Terminal cover for box terminals
3RT1946-4EA1	Terminal cover for cable lug and bar connection
3RT2946-4F	Aux. conductor terminal
3RA2943-3L	1-Phase supply terminal, Size S3
3RV2908-0P	Sealing Cap
3RV2901-0H	Cover
3RV2928-4AA00	Cover for ring-lug-terminals (main terminals)
3RV2908-4AA10	Cover for ring-lug-terminals (auxiliary switch, top mounting)
3RV2928-0B	Plug-in lugs for screw mounting
8US1251-5DS10	Adapter for SIRIUS Circuit breaker, Size S00, screw terminals, 200mm
8US1251-5DT10	Adapter for SIRIUS Circuit breaker, Size S00, screw terminals, 260mm
8US1251-5NT10	Adapter for SIRIUS Circuit breaker, Size S0, screw terminals, 260mm
8US1251-5DT11	Adapter for SIRIUS Circuit breaker Size S00, spring terminals, 260mm
8US1251-5NT11	Adapter for SIRIUS Circuit breaker Size S0, spring terminals, 260mm
8US1251-5DS11	Adapter for SIRIUS Circuit breaker Size S00, spring terminals, 200mm
8US1261-5MS13	Adapter for SIRIUS Circuit breaker, Size S2, screw terminals, 200mm
8US1261-6MT10	Adapter for SIRIUS Circuit breaker, Size S2, screw terminals, 260mm
8US1211-6MT10	Adapter for SIRIUS Circuit breaker, Reversing Adapter Size S2, screw terminals, 260mm
8US1211-4TR00	Adapter for SIRIUS Circuit breaker, Size S3, screw terminals, 215mm
3RV2928-1H	Terminal Block, Size S00, S0
3RV2925-5AB	3-phase Line-Side Terminal, Size S00, S0
3RV2925-5EB	3-phase Line-Side Terminal for Self-protected Motor Starter, Size S00, S0
3RV1915-1AB	3-phase busbar for 2 devices 45mm distance, Size S00, S0
3RV1915-1BB	3-phase busbar for 3 devices 45mm distance, Size S00, S0
3RV1915-1CB	3-phase busbar for 4 devices 45mm distance, Size S00, S0
3RV1915-1DB	3-phase busbar for 5 devices 45mm distance, Size S00, S0
3RV1915-2AB	3-phase busbar for 2 devices 55 mm distance, Size S00, S0
3RV1915 2BB	3-phase busbar for 3 devices 55 mm distance, Size S00, S0
3RV1915-2CB	3-phase busbar for 4 devices 55 mm distance, Size S00, S0
3RV1915-2DB	3-phase busbar for 5 devices 55 mm distance, Size S00, S0
3RV1915-3AB	3-phase busbar for 2 devices 63 mm distance, Size S00, S0
3RV1915-3CB	3-phase busbar for 4 devices 63 mm distance, Size S00, S0
3RV2915-5B	3-phase Line-Side Terminal, connection from below, Size S00, S0
3RV1915-6AB	Cover for tags, Size S00, S0
3RV2935-5A	3-phase Line-Side Terminal, Size S2
3RV2935-5E	3-phase Line-Side Terminal for Self-protected Motor Starter, Size S2
3RV1935-1A	3-phase busbar for 2 devices 55mm distance, Size S2
3RV1935-1B	3-phase busbar for 3 devices 55mm distance, Size S2
3RV1935-1C	3-phase busbar for 4 devices 55mm distance, Size S2
3RV1935-3A	3-phase busbar for 2 devices 75 mm distance, Size S2
3RV1935-3B	3-phase busbar for 3 devices 75 mm distance, Size S2
3RV1935-3C	3-phase busbar for 4 devices 75 mm distance, Size S2
3RV1935-6A	Cover for tags, Size S2

see type test certificate according to product standard

Test summary

Certificate No.: 3020b

Test laboratory: *Type Test Center Siemens AG Amberg*
Werner-von-Siemens-Str. 48, 92220 Amberg

Manufacturer: *Siemens AG, DF CP*
Werner-von-Siemens-Str. 29, 93413 Cham

Siemens, s.r.o.
Nízkonapěťová spínací technika Works
541 01 Trutnov, Volanovska 516
Czech Republic

Test object: *Motor starter protectors and accessories*

Type designation: *3RV2*

Test specification: *DIN EN 61373 (2011-04) IEC 61373 (2010-05)*

Test report No.: *09001TMv03, 13082ENV02, 13022ENV03, 13021ENV03, 15044ENV03*

The Test summary consists of 20 pages and is only valid combined with the product description

Test report No.: 09001TEv03

Test samples:

Sample no	Device no 09001TM	Tested device	Order-No.	Date code	mounting	monitoring
35	-260	motor starter protector	3RV2011-1KA20	E01; G/081215	snap	all contacts
	-261	transverse auxiliary switch	3RV2901-2F	E00; NQ/090217		
	-262	signaling switch	3RV2921-2M	E01; NQ/080923		
	-263	shunt trip unit	3RV2902-2DP0	E00; NQ/080204		
36	-264	motor starter protector	3RV2021-4EA20	E00; G/090202	snap	all contacts
	-265	lateral auxiliary switch	3RV2901-2A	E00; NQ/090304		
	-266	undervoltage trip unit	3RV2902-2AP0	E00; NQ/090309		
	-267	sealable cover	3RV2908-0P	30.OKT.2009		mechanic function
37	-268	circuit breaker	3RV2711-4AD10	E00; G/090319	snap	all contacts
	-269	lateral auxiliary switch	3RV2901-1A	E00; NQ/090304		
38	-270	motor starter protector	3RV2021-4EA40	E01; G/091116	snap	all contacts
	-271	lateral auxiliary switch	3RV2901-4A	E01; NQ/081120		
	-272	undervoltage trip unit	3RV2902-4AP0	E00; NQ/090522		
39	-273	motor starter protector	3RV2011-1KA10	E01; G/081209	screw	all contacts
	-274	lateral auxiliary switch	3RV2901-1J	E00; NQ/090309		
	-275	undervoltage trip unit with leading auxiliary contacts	3RV2922-1CP0	E00; NQ/090309		
	-276	isolator module	3RV2928-1A	E02; NQ/081229		connection
40	-278	motor starter protector	3RV2021-4FA10	E01; G/091028	screw	all contacts
	-279	transverse auxiliary switch	3RV2901-1D	E00; NQ/090227		
	-280	lateral auxiliary switch	3RV2901-1C	E00; NQ/090304		
	-281	signaling switch	3RV2921-1M	E00; NQ/090304		
	-282	shunt trip unit	3RV2902-1DP0	E00; NQ/090309		

Test summary

Certificate No.: 3020b

Sample no	Device no 09001TM	Tested device	Order-No.	Date code	mounting	monitoring
41	-284	connection from below	3RV2915-5B	E01; EYA/081219	snap	connection
	-285	3-phase busbar	3RV1915-2DB	E01		
	-286	connection from top	3RV2925-5EB	E01		
	-287	motor starter protector	3RV2011-1KA10	E01; G/081209		all contacts
	-288	lateral auxiliary switch	3RV2901-1A	E01; NQ/081120		
	-290	sealable cover	3RV2928-0P	30.OKT.2009		mechanic function
	-291	motor starter protector	3RV2011-1KA10	E00; G/090406		all contacts
	-292	transverse auxiliary switch	3RV2901-1E	E00; NQ/090218		
	-293	lateral auxiliary switch	3RV2901-1A	E01; NQ/081120		all contacts
	-295	motor starter protector	3RV2021-4CA10	E00; G/090107		
	-296	lateral auxiliary switch	3RV2901-1A	E00; NQ/090304		all contacts
	-297	transverse auxiliary switch	3RV2901-1D	E00; NQ/090227		
	-300	motor starter protector	3RV2021-4EA10	E00; G/090311		
	-301	transverse auxiliary switch	3RV2902-1F	E00; NQ/090217		
	-302	lateral auxiliary switch	3RV2901-1A	E01; NQ/081120		all contacts
	-303	undervoltage trip unit with leading auxiliary contacts	3RV2922-1CP0	E00; NQ/090309		
42	-304	busbar adapter	8US1251-5DS10	04 NET 037982000000	busbar adapters	connection
	-305	motor starter protector	3RV2011-1KA10	E01; G/091027		all contacts
	-306	lateral auxiliary switch	3RV2901-1J	E00; NQ/090309		
	-307	undervoltage trip unit	3RV2902-1AP0	E00; NQ/090309		connection
	-308	terminal block	3RV2928-1H	E02; EYA/081219		
	-309	busbar adapter	8US1251-5NT10	04 NET 037982000000		connection
	-310	motor starter protector	3RV2021-4FA10	E01; G/091028		all contacts
	-311	lateral auxiliary switch	3RV2901-1A	E00; NQ/090304		
	-312	transverse auxiliary switch	3RV2901-1D	E00; NQ/090227		connection
	-313	signaling switch	3RV2921-1M	E00; NQ/090304		
	-314	shunt trip unit	3RV2902-1DP0	E00; NQ/090309		connection
	-315	terminal block	3RV2928-1H	E02;		mechanic function
	-316	sealable cover	3RV2908-0P	30.OKT.2009		
43	-317	busbar adapter	8US1251-5DT11	04 NET 037982000000	motor starter protector tested with an endstop for mounting rail on the left side and one on the right side of the mounting rail on the adapter	connection
	-318	motor starter protector	3RV2011-1KA20	E00; G090327		all contacts
	-319	transverse auxiliary switch	3RV2901-2F	E00; NQ/090309		
	-320	undervoltage trip unit	3RV2902-2AP0	E00; NQ/090309		connection
	-321	busbar adapter	8US1251-5N11	04 NET 037982000000		
	-322	motor starter protector	3RV2021-4EA20	E00; G/090202		all contacts
	-323	lateral auxiliary switch	3RV2901-2A	E00; NQ/090304		
	-324	signaling switch	3RV2921-2M	E01; NQ/080923		
	-325	shunt trip unit	3RV2902-2DB0	E00; NQ/090309		

Test summary

Certificate No.: 3020b

Sample no	Device no 09001TM	Tested device	Order-No.	Date code	mounting	monitoring
44	-326	3-phase busbars with infeed from left	3RV2917-1A	E03; NQ/090820	snap	connection
	-327	plug-in connector	3RV1917-5BA00	E01; NQ/085223		
	-328	motor starter protector	3RV2011-4AA20	E00; G/090323		all contacts
	-329	link module	3RA2911-2A	E01; BIA/090302		connection
	-330	contactor base	3RV2927-7AA00	E01; NQ/090105		mechanic function
	-331	contactor base	3RV2927-7AA00	E01; NQ/090105		
	-332	contactor	3RT2018-2BB42	E01; NQ/090203		all contacts
	-333	contactor	3RT2018-2BB42	E01; NQ/090203		
	-334	wiring kit reversing starting	3RA2913-2AA2	G/090409		connection
	-335	3-phase busbars for system expansion	3RV2917-4B	E03; NQ/090910		
	-336	plug-in connector	3RV2927-5AA00	E01; NQ/081231		
	-337	motor starter protector	3RV2021-4CA20	E01; G/091023		all contacts
	-338	link module	3RA2921-2A	E01; BIA090303		connection

Test summary

Certificate No.: 3020b

Required test values:

Vibration test

test	frequency range Hz	load duration each axis	category 1 , class B		standard specific. paragraph
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
functional test	5 – 150Hz	5 h	1,857	7,9	8.1
long life test	5 – 150Hz	10 min	0,0298	1,0	9.1

Shock test

category	orientation	peak acceleration m/s ²	nominal duration ms	standard specific. paragraph
1 B	Vertical Transverse Longitudinal	30 30 50	30	10.5

Test summary

Certificate No.: 3020b

Test results:

Sample No. 09001TM	Tests		
	Long life test according to: DIN EN 61373 part 9.1	Functional test according to: DIN EN 61373 part 8.1	shock according to: DIN EN 61373 part 10.5 1)
35	passed	passed	50m/s ²
36	passed	passed	50m/s ²
37	passed	passed	50m/s ²
38	passed	passed	50m/s ²
39	passed	passed	50m/s ²
40	passed	passed	50m/s ²
41	passed	passed	50m/s ²
42	passed	passed	50m/s ²
43	passed	passed	50m/s ²
44	passed	passed	50m/s ²
45	passed	passed	30m/s ²

1) shock passed by this test samples, shock duration: 30ms

Test summary

Certificate No.: 3020b

Test report No.: 13082ENV02

Test samples:

Sample No. 13082EN	Device no	Tested device	Type designation	Date code	mounting	monitoring
002	-030	infeed, left side with 2 sockets	3RV2917-1A	E03; NQ/130906	snap mounted	connection
	-031	plug for 3RV2	3RV2917-5AA00	E01; NQ/131003		connection
	-032	motor starter protector	3RV2011-4AA20	E01; G/130712		all contacts
	-033	connector	3RA2911-2A	E01		all contacts / circuits
	-034	contactor Base	3RV2917-7AA00	E01; NQ/130716		mechanic function
	-035	contactor Base	3RV2917-7AA00	E01; NQ/130716		mechanic function
	-036	contactor	3RT2018-2AP02	E01; G/090924		all contacts / circuits
	-037	contactor	3RT2018-2AP02	E01; G/090924		all contacts / circuits
	-038	auxiliary contact block	3RH2911-2FA22	E02; LO130824		all contacts
	-039	auxiliary contact block	3RH2911-2FA22	E02; LO130824		all contacts
	-040	wiring connectors	3RA2913-2AA2	E01		connection
	-041	expansion module with 2 sockets	3RV2917-4A	E03; NQ/130822		connection
	-042	plug for 3RV2	3RV2917-5CA00	E01; KHX13241		connection
	-043	motor starter protector	3RV2011-4AA10	E01; G/130903		all contacts
	-044	connector	3RA1921-1D	E01		connection
	-045	contactor Base	3RV2917-7AA00	E01; NQ/130716		mechanic function
	-046	contactor Base	3RV2917-7AA00	E01; NQ/130716		mechanic function
	-047	contactor	3RT2018-1AP02	E04; G/130726		all contacts / circuits
	-048	contactor	3RT2018-1AP02	E04; G/130726		all contacts / circuits
	-049	auxiliary contact block	3RH2911-1FA22	E02; LO130802		all contacts
	-050	auxiliary contact block	3RH2911-1FA22	E02; LO130802		all contacts
	-051	wiring connectors	3RA2923-2AA2	E01		connection

Test summary

Certificate No.: 3020b

Required test values:

long life test according to DIN EN 61373 part 9.1 and IEC 61373 part 9.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
long life test	5 – 150Hz	5 h	0,964	5,7	Vertical Transverse Longitudinal

functional test according to DIN EN 61373 part 8.1 and IEC 61373 part 8.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
functional test	5 – 150Hz	10 min	0,0301	1,0	Vertical Transverse Longitudinal

shock test according to DIN EN 61373 part 10.5 and IEC 61373 part 10.5

test	orientation	peak acceleration m/s ²	nominal duration ms	standard specific. paragraph
shock test	Vertical Transverse Longitudinal	30 30 50	30	10.5

Test summary

Certificate No.: 3020b

Test results:

Sample No. 13082EN	Tests		
	Long life test according to: DIN EN 61373 part 9.1	Functional test according to: DIN EN 61373 part 8.1	shock according to: DIN EN 61373 part 10.5 1)
002	passed	passed	30m/s ²

1) shock passed by this test sample, shock duration: 30ms

According to the client:

A contactor has to be screw mounted on the contactor base to use under increased shock and vibration load.

Test report No.: 13022ENV03

Test samples:

Sample No. 13022EN	Device no	Tested device	Type designation	Date code	mounting	monitoring
017	-049	Motor starter protector	3RV2031-4AA10	E01; G/131028	screw mounted	all contacts / all circuits
	-050	Lateral auxiliary switch	3RV2901-1J	E01; NQ/131002		all contacts / all circuits
	-051	Undervoltage trip unit with leading auxiliary contacts	3RV2922-1CP0	E01; NQ/130626		all contacts / all circuits
018	-052	Motor starter protector	3RV2031-4GA10	E01; G/131028	snap mounted	all contacts / all circuits
	-053	Lateral auxiliary switch	3RV2901-1J	E01; NQ/131002		all contacts / all circuits
	-054	Undervoltage trip unit with leading auxiliary contacts	3RV2922-1CP0	E01; NQ/130626		all contacts / all circuits
019	-055	Motor starter protector	3RV2031-4AB10	E01; G/131029	snap mounted	all contacts / all circuits
	-056	Lateral auxiliary switch	3RV2901-1J	E01; NQ/131002		all contacts / all circuits
	-057	Undervoltage trip unit with leading auxiliary contacts	3RV2922-1CP0	E01; NQ/130507		all contacts / all circuits
020	-058	Motor starter protector	3RV2031-4GB10	E01; G/131029	screw mounted	all contacts / all circuits
	-059	Lateral auxiliary switch	3RV2901-1J	E01; NQ/131002		all contacts / all circuits
	-060	Undervoltage trip unit with leading auxiliary contacts	3RV2922-1CP0	E01; NQ/130814		all contacts / all circuits

Test summary

Certificate No.: 3020b

Required test values:

long life test according to DIN EN 61373 part 9.1 and IEC 61373 part 9.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
long life test	5 – 150Hz	5 h	0,964	5,7	Vertical Transverse Longitudinal

functional test according to DIN EN 61373 part 8.1 and IEC 61373 part 8.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
functional test	5 – 150Hz	10 min	0,0301	1,0	Vertical Transverse Longitudinal

shock test according to DIN EN 61373 part 10.5 and IEC 61373 part 10.5

test	orientation	peak acceleration m/s ²	nominal duration ms	standard specific. paragraph
shock test	Vertical	30	30	10.5
	Transverse	30		
	Longitudinal	50		

Test summary

Certificate No.: 3020b

Test results:

Sample No. 13022EN	tested device	Tests		
		Long life test according to: DIN EN 61373 part 9.1	Functional test according to: DIN EN 61373 part 8.1	shock according to: DIN EN 61373 part 10.5 1)
017	-049 and -051	passed	passed	50m/s ²
	-050	passed	passed	30m/s ²
018	-052 to -054	passed	passed	50m/s ²
019	-055 and -057	passed	passed	50m/s ²
	-056	passed	passed	30m/s ²
020	-058 and -060	passed	passed	50m/s ²
	-059	passed	passed	30m/s ²

1) shock passed by this test sample, shock duration: 30ms

Test summary

Certificate No.: 3020b

Test report No.: 13021ENV03

Test samples:

Sample No. 13021EN	Device no	Tested device	Date code	Type designation	mounting	monitoring
021	-160	Motor starter protector	E01; G/131126	3RV2032-4EA10	Mounting rail	L1-T3
	-161	Lateral auxiliary switch	E01; NQ/121122	3RV2901-2A		33-34; 41-42
	-162	Transverse auxiliary switch	E01; NQ/100126	3RV2901-4E		13-14; 21-22
	-163	Signaling switch	E01; NQ/121121	3RV2921-2M		57-58; 65-66; 77-78; 85-86
	-164	Voltage release	E01; NQ/121129	3RV2902-1DB0		---
	-165	3-Phase infeed terminal	EYA140110	3RV2935-5A		---
022	-166	Motor starter protector	E01; G/131126	3RV2032-4EA10	8US 8US1261- 5MS13	L1-T1; L2-T2; L3-T3
	-167	Lateral auxiliary switch	E01; NQ/121122	3RV2901-2A		33-34; 41-42
	-168	Transverse auxiliary switch	E01; NQ/100126	3RV2901-4E		13-14; 21-22
	-169	Signaling switch	E01; NQ/121121	3RV2921-2M		57-58; 65-66; 77-78; 85-86
	-171	3-Phase infeed terminal	EYA140110	3RV2935-5A		L1-T1; L2-T2; L3-T3
023	-230	Motor starter protector	E01 G/150318	3RV2032-4RA10	Mounting rail	L1-T3
	-173	Lateral auxiliary switch	E01; NQ/121123	3RV2901-1A		33-34; 41-42
	-174	Transverse auxiliary switch	E01; NQ/121221	3RV2901-1E		13-14; 21-22
	-175	Signaling switch	E01; NQ/121210	3RV2921-1M		77-78; 85-86
	-176	Undervoltage release with leading auxiliary contacts	E01; NQ/130311	3RV2922-4CV1		07-08
	-177	3-Phase infeed terminal	EYA140110	3RV2935-5E		---
	-178	Sealabel cover	---	3RV2908-0P		---

024	-179	Motor starter protector	E01; G/140113	3RV2032-4HB10	screw	L1-T3
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Test summary

Certificate No.: 3020b

Sample No. 13021EN	Device no	Tested device	Date code	Type designation	mounting	monitoring
	-180	Lateral auxiliary switch	E01; NQ/121123	3RV2901-1A		33-34; 41-42
	-181	Transverse auxiliary switch	E01; NQ/130115	3RV2901-1D		11-12; 11-14
	-182	Signaling switch	E01; NQ/121210	3RV2921-1M		77-78; 85-86
	-183	Undervoltage release with leading auxiliary contacts	E01; NQ/130116	3RV2922-1CP0		07-08
	-184	Disconnecter module	E01; NQ131212	3RV2938-1A		---
	-185	Sealabel cover	---	3RV2908-0P		---

Test summary

Certificate No.: 3020b

Required test values:

long life test according to DIN EN 61373 part 9.1 and IEC 61373 part 9.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
long life test	5 – 150Hz	5 h	0,964	5,7	Vertical Transverse Longitudinal

functional test according to DIN EN 61373 part 8.1 and IEC 61373 part 8.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
functional test	5 – 150Hz	10 min	0,0301	1,0	Vertical Transverse Longitudinal

shock test according to DIN EN 61373 part 10.5 and IEC 61373 part 10.5

test	orientation	peak acceleration m/s ²	nominal duration ms	standard specific. paragraph
shock test	Vertical	30	30	10.5
	Transverse	30		
	Longitudinal	50		

Test summary

Certificate No.: 3020b

Test results:

Sample No. 13021EN	Tests		
	Long life test according to: DIN EN 61373 part 9.1	Functional test according to: DIN EN 61373 part 8.1	shock according to: DIN EN 61373 part 10.5 1)
021	passed	passed	50m/s ²
022	passed	passed	50m/s ²
023	passed	passed	30m/s ²
024	passed	passed	30m/s ²
025	passed	passed	50m/s ²
026	passed	passed	50m/s ²
027	passed	passed	50m/s ²
028	passed	passed	30m/s ²
029	passed	passed	50m/s ²
030	passed	passed	30m/s ²

Test summary

Certificate No.: 3020b

Test report No.: 15044ENV03

Test samples:

Sample No. 15044EN	Device no	Tested device	Date code	Type designation	mounting	monitoring
401	-001	Motor starter protector	G/160414 *E01*	3RV2042-4FB10	snap mounted	L1-T3
	-002	Lateral Aux.Switch	NQ/101201 *E01*	3RV2901-4A		33-34;41-42
	-003	Transv. Aux.Switch	NQ/090908 *E01*	3RV2901-4E		13-14;21-22
	-004	Undervoltagerelase	LO/160811 *E01*	3RV2922-4CV1		07-08
	-005	Terminal cover	G/160929 *E01*	3RT1946-4EA2		- - -
402	-001	Motor starter protector	G/160504 *E01*	3RV2142-4FA10	screw mounted	L1-T3;95-96;97-98
	-002	Lateral Aux.Switch	LO/160129 *E01*	3RV2901-2A		33-34;41-42
	-003	Transv. Aux.Switch	LO/160212 *E01*	3RV2901-2E		13-14;21-22
	-004	Signalling Switch	LO/160629 *E01*	3RV2921-2M		57-58;65-66; 77-78;85-86
	-005	aux. Conductor terminal 3-pole	- - -	3RT2946-4F		- - -
403	-001	Motor starter protector	G/160420 *E01*	3RV2042-4MB10	screw mounted	L1-T3
	-002	Lateral Aux.Switch	LO/160613 *E01*	3RV2901-1J		13-14;21-22; 31-32;43-44
	-003	Voltage release	LO/160712 *E01*	3RV2902-1DB0		- - -
	-004	Terminal cover	G/160127 *E01*	3RT1946-4EA1		- - -
	-005	Scale cover	- - -	3RV2908-0P		- - -
404	-001	Motor starter protector	G/160429 *E01*	3RV2142-4MA10	snap mounted	L1-T3;95-96;97-98
	-002	Lateral Aux.Switch	LO/160606 *E01*	3RV2901-1A		33-34;41-42
	-003	Signalling Switch	LO/160627 *E01*	3RV2921-1M		57-58;65-66; 77-78;85-86
	-004	Terminal block	- - -	3RV1948-1K		- - -
	-005	Terminal block	G/160831 *E01*	3RT2946-4GA07		- - -
	-006	Scale cover	- - -	3RV2908-0P		- - -

Test summary

Certificate No.: 3020b

Sample No. 15044EN	Device no	Tested device	Date code	Type designation	mounting	monitoring
405	-001	Motor starter protector	G/160401 *E01*	3RV2041-4JA10	Busbar adapter	L1-T1; L2-T2; L3-T3
	-002	Lateral Aux. Switch	LO/160125 *E01*	3RV2901-1A		33-34; 41-42
	-003	Transv. Aux. Switch	LO/160719 *E01*	3RV2901-1E		13-14; 21-22
	-004	Signalling Switch	LO/160613 *E01*	3RV2921-1M		57-58; 65-66; 77-78; 85-86
	-005	Terminal cover	G/160127 *E01*	3RT1946-4EA1		---
	-006	Busbar adapter	---	8US1211-4TR00		---
406	-001	Motor starter protector	G/160426 *E01*	3RV2042-4YB10		L1-T1; L2-T2; L3-T3
	-002	Terminal block	G/160831 *E01*	3RT2946-4GA07		---
	-003	Scale cover	---	3RV2908-0P		---
	-004	Busbar adapter	---	8US1211-4TR00		---
407	-001	Motor starter protector	G/160429 *E01*	3RV2142-4MA10		L1-T1; L2-T2; L3-T3; 95-96; 97-98
	-002	Transv. Aux. Switch	LO/160721 *E01*	3RV2901-1G		11-12-14
	-003	Terminal block	---	3RV1948-1K		---
	-004	Scale cover	---	3RV2908-0P		---
	-005	Busbar adapter	---	8US1211-4TR00		---

Test summary

Certificate No.: 3020b

Required test values:

long life test according to DIN EN 61373 part 9.1 and IEC 61373 part 9.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
long life test	5 – 150Hz	5 h	0,964	5,59	Vertical Transverse Longitudinal

functional test according to DIN EN 61373 part 8.1 and IEC 61373 part 8.1

test	frequency range Hz	load duration each axis	category 1 , class B		orientation
			ASD – level (m/s ²) ² /Hz	RMS value m/s ²	
functional test	5 – 150Hz	10 min	0,0301	0,99	Vertical Transverse Longitudinal

shock test according to DIN EN 61373 part 10.5 and IEC 61373 part 10.5

test	orientation	peak acceleration m/s ²	nominal duration ms	standard specific. paragraph
shock test	Vertical	50	30	10.5
	Transverse	50		
	Longitudinal	50		

Test summary

Certificate No.: 3020b

Test results:

Sample No. 15044EN	Tests		
	Long life test according to: DIN EN 61373 part 9.1	Functional test according to: DIN EN 61373 part 8.1	shock according to: DIN EN 61373 part 10.5 1)
401	passed	passed	30m/s ²
402	passed	passed	50m/s ²
403	passed	passed	50m/s ²
404	passed	passed	30m/s ²
405	passed	passed	30m/s ²
406	passed	passed	50m/s ²
407	passed	passed	50m/s ²

1) shock passed by this test sample, shock duration: 30ms

Test summary

Certificate No.: 3020b

The tests were carried out on devices, representative for the whole series, fixed on page 2 up to 8 of the product description

The tests were carried out in the

Type Test Center Siemens AG Amberg
Werner-von-Siemens-Str. 48, 92220 Amberg
Accredited-No.: **D-PL-11055-04-00**

The test results are in accordance with the test specification

Remarks

Certificate No.: 3020b

09001TMv03: Test of motor starter protectors 3RV2.1... size S00 and 3RV2.2... size S0 with accessories according to DIN EN 61373 (1999-11) and IEC 61373 (1999-01). The test results are in accordance with the test specification. The test report also covers the recent specifications DIN EN 61373 (2011-04) and IEC 61373 (2010-05)

13082ENV02: Test of contactor base 3RV2917-7AA00 size S0 according to DIN EN 61373 (2011-04) and IEC 61373 (2010-05). The test results are in accordance with the test specification.

According to the client:

A contactor has to be screw mounted on the contactor base to use under increased shock and vibration load.

13022ENV03: Test of motor starter protectors 3RV2.3... size S2 65kA up to 45A according to DIN EN 61373 (2011-04) and IEC 61373 (2010-05). The test results are in accordance with the test specification.

13021ENV03: Test of motor starter protectors 3RV2.3... size S2 100kA and 65kA over 45A according to DIN EN 61373 (2011-04) and IEC 61373 (2010-05). The test results are in accordance with the test specification.

15044ENV03: Test of motor starter protectors 3RV2.4... size S3 according to IEC 61373 (2010-05). The test results are in accordance with the test specification.

Amberg, 2017-03-14

Location, Date

D. Pilhofer

Signature
(Authorized representative)
Pilhofer

Bogner

Reviewed
(Laboratory manager)
Bogner

Bestätigung **Confirmation**

Name und Anschrift:
Name and address: **Siemens AG**
DF CP
Werner-von-Siemens-Straße 48
D-92220 Amberg

Produktbezeichnung:
Designation of the product: **SIRIUS / SIRIUS Innovation Leistungsschalter 3RV1/ 3RV2**
SIRIUS / SIRIUS Innovation Circuit Breaker 3RV1/ 3RV2

Kurzschlussfestigkeit in einem minimalen Gehäuse
Short circuit withstand strength in minimum enclosure

Ein Nachweis der Kurzschlussfestigkeit ist nach IEC 61439-1 nicht notwendig, wenn der Durchlasswert des Kurzschlussschutzgerätes 17kA nicht überschreitet. Tabelle 1 gibt diesbezüglich einen Überblick für die Leistungsschalter 3RV2.

Bei Durchlasswerten >17kA bestätigen wir die Kurzschlussfestigkeit in einem minimalen Gehäuse für 3RV1 und 3RV2 entsprechend Tabelle 2. Die Kurzschlusswerte sind abhängig von der Spannung und den Gehäuseabmessungen.

Gemäß IEC 61439-1 kann der Nachweis der Kurzschlussfestigkeit durch Verweis auf eine Referenzkonstruktion geführt werden. Die in Tabelle 2 angegebenen Werte für Mindestgehäusegröße und Mindestvolumen können hierfür herangezogen werden. Darüber hinaus müssen die in Tabelle 3 angegebenen Abstände zu geerdeten Teilen oder aktiven Leitern eingehalten werden.

A verification of the short circuit withstand strength according IEC 61349-1 is not necessary if the let-through current is below 17kA. Tabel 1 gives a related overview for the Circuit Breaker 3RV2.

For let-through currents >17kA we confirm the short-circuit withstand strength in a minimum enclosure for 3RV1 and 3RV2 , corresponding to table2. The short circuit values are a function of rated voltage and enclosure size.

According to IEC 61439-1 the verification of the Short-circuit withstand strength can be done by comparison with a reference design. The values for minimum enclosure size and minimum enclosure volume, given in Table 2, can be used for this verification. Above that the distance between circuit-breaker and earthed metal parts, as given in Table 3, have to be considered.

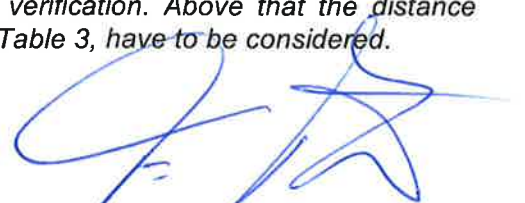
Amberg, 2016-05-31

(Ort und Datum der Ausstellung)
(Place and date of issue)



DF CP R&D VC Hr. Hartinger

(Name und Unterschrift oder gleichwertige Kennzeichen des Befugten)
(name and signature or equivalent marking of authorized person)



DF CP R&D PMM Hr. Royer

Bei diesen Leistungsmerkmalen handelt es sich nicht um Beschaffheitsgarantien im Sinne des §443BGB

(These rating notes are not a guarantee for physical constructions in the sense of &443BGB)

Tabelle/Table 1

Strom Durchlasswerte $I_D < 17\text{kA}$, abhängig vom prospektiven Kurzschlussstrom I_c / Let-through current $I_c < 17\text{kA}$, in dependence to the prospective short-circuit current I_c
 Geeignet für den Nachweis der Kurzschlussfestigkeit gemäß IEC 61439-1 / Suitable for the verification of short-circuit withstand strength according IEC 61439-1

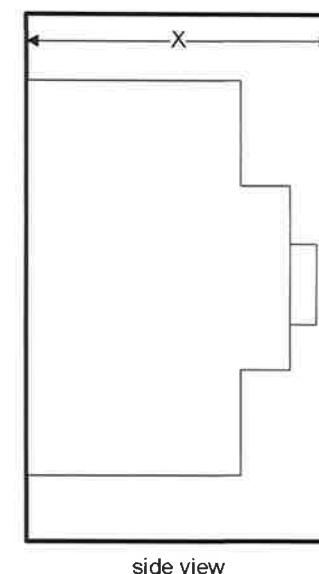
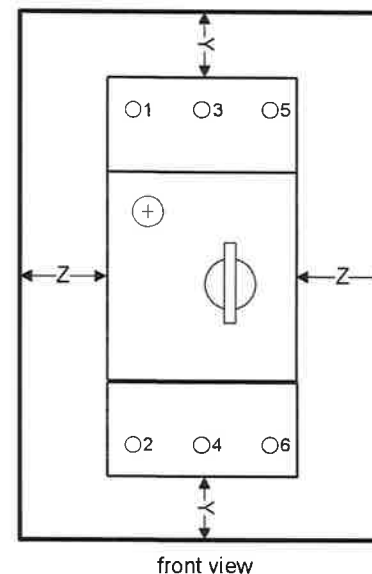
		I_c	16 kA	20 kA	30 kA	35 kA	40 kA	45 kA	50 kA	55 kA	60 kA	65 kA	80 kA	90 kA	95 kA	100 kA
3RV20	I_n	Durchlasswerte I_D für 400V abhängig von I_c														
3RV2011	bis 12,5 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	16 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3RV 2021	bis 12,5 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	bis 32 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	bis 40 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
3RV 2031	bis 73 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	80 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA
3RV 2032	bis 45 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	52 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	>17kA
	59 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA
	65 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA
	73 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA
	80 A	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA
3RV2041	bis 40 A	OK	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	50 A	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	63 A	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	75 A	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	84 A	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	93 A	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	100 A	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
3RV2042	bis 40 A	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	50 A	OK	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	63 A	OK	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	75 A	OK	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	84 A	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	93 A	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA
	100 A	OK	OK	OK	OK	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA	>17kA

Legende/ Legend

OK	keine Tests erforderlich/ no tests necessary: $I_D < 17\text{ kA}$
>17 kA	Tests erforderlich/ tests necessary: $I_D > 17\text{ kA}$

Tabelle/ Table 2 Kurzschlusswerte in Abhängigkeit von der Mindestgehäusegröße Short circuit withstand values as a function of minimum enclosure size						
	Circuit breaker Leistungsschalter		Short circuit withstand strength Kurzschlussfestigkeit		Minimum enclosure size Mindestgehäusegröße	Minimum volume
Frame Size	Catalog No.	In max.	Ue	Short circuit current	H x B x T H x W x D	
S00	3RV1.11	12A	400V	50 kA	290mm X 290mm X 150 mm	12,6 dm ³
S0	3RV1.21	25A	400V	50 kA	290mm X 290mm X 150 mm	12,6 dm ³
S2	3RV1.31	50A	400V	50 kA	292mm X 152mm X 292 mm	12,6 dm ³
S3	3RV1.4	100A	400V	65 kA	500mm X 230mm X 250 mm	28,8 dm ³
S3	3RV1742	70A	400V	65 kA	500mm X 230mm X 250 mm	28,8 dm ³
S00	3RV2.11	16A	400V	55 kA	290mm X 290mm X 150 mm	12,6 dm ³
	3RV2711	15A	400V	55 kA	300mm X 320mm X 160 mm	15,4 dm ³
	3RV2811	15A	400V	55 kA	300mm X 320mm X 160 mm	15,4 dm ³
S0	3RV2.21	25A	400V	55 kA	290mm X 290mm X 150 mm	12,6 dm ³
	3RV2.21	32A	400V	50 kA	290mm X 290mm X 150 mm	12,6 dm ³
	3RV2.21	40A	400V	12 kA	290mm X 290mm X 150 mm	12,6 dm ³
	3RV2721	22A	400V	50 kA	300mm X 320mm X 160 mm	15,4 dm ³
	3RV2821	22A	400V	50 kA	300mm X 320mm X 160 mm	15,4 dm ³
S2	3RV2031 3RV2032	80A	400V	65 kA 100 kA	605mm X 310mm X 205 mm	38,4 dm ³
S3	3RV2.41 3RV2.42	100A	400V	65 kA 100 kA	500mm X 230mm X 250 mm	28,8 dm ³
	3RV2742	70A	400V	65 kA	500mm X 230mm X 250 mm	28,8 dm ³

Tabelle/ Table 3	Abstände zwischen Leistungsschaltern und geerdeten oder aktiven Teilen Distance between circuit-breaker and earthed metal or active parts				
	Type		Distance		
	In	Ue	X	Y	Z
	A	V	mm	mm	mm
3RV1.1	up to 12A	up to 690	90	20	9
3RV1.2	up to 25A	up to 500 up to 690	90 90	30 50	9 30
3RV1.3	up to 50A	up to 690	140	50	30
3RV1.4	up to 100A	up to 240	167	50	10
		up to 440	167	70	10
		up to 500	167	110	10
		up to 690	167	150	30
3RV1742	up to 70A	up to 400	167	90	10
3RV2.1 3RV2.2	up to 32A	up to 500	90	30	9
		up to 690	90	50	30
	36A + 40A	up to 690	90	70	30
3RV2.3	up to 80	up to 690	140	50	10
3RV2.4	up to 100A	up to 240	167	50	10
		up to 440	167	70	10
		up to 500	167	110	10
		up to 690	167	150	30
3RV2742	up to 70A	up to 400	167	90	10



Deckblatt / Cover Page

VDE Prüf- und Zertifizierungsinstitut

Erzeugnis / Product

Leistungsschalter / Circuit breaker SIRIUS Innovation 3RV...

Typ: **3RV...**
Type:

Hersteller:
Manufacturer: **Siemens AG, I IA CE CP**

Art der Prüfung / Type of test: **Typ Test / Type Test**

Prüfer / Tested by: **Ms. R. Dorf**

Tag der Prüfung / Date of
test: **2014-07-25**

Prüfört / Test site: **Offenbach**

Prüfstelle / Testing authority **VDE Offenbach / CC4**

Angewandte Prüfbestimmungen / Test specifications applied:

DIN EN 60335-1 (VDE 0700-1):2012-10
EN 60335-1:2012

Anlage / Enclosure:

Wärme- und Feuerbeständigkeit, Abschnitt 30.2 / Resistance to heat and fire, chapter 30.2

Prüfergebnis / Test results:

siehe Anhang / see attachment

Gültigkeit (Datum, Gerät) / Validity (date, device):

Prüfungsanforderungen wurden erfüllt / all requirements of the test specification are met.

Bemerkungen / Remarks: **Erstellt: 2014-08-08**

Test report wird nur auf Anfrage verteilt / Test report will be distributed on demand only

Index a: dated 2014-08-19: Schreibfehler berichtigt / Typo corrected

Deckblatt ist nicht Bestandteil der Bescheinigung
Cover Page is not part of the Certificate


I IA CE CP R&D-VI 4 Mr. Kulzer

VDE Prüf- und Zertifizierungsinstitut GmbH • Merianstraße 28 • 63069 Offenbach

Siemens AG I IA CE
Herrn Gerhard Kulzer
Werner-von-Siemens-Straße 48
92220 Amberg



Offenbach, 2014-07-25

Ihr Zeichen

Ihr Schreiben
2014-01-10

Unser Zeichen - bitte angeben
40010-9020-0005/193879
CC4/df-wah

Ansprechpartner
Frau Dorf
Tel (069) 83 06-684
Fax (069) 83 06-716
regina.dorf@vde.com

PRÜFBERICHT
zur Information des Auftraggebers

Test Report for the Information of the applicant

Produkt / Product: Leistungsschalter SIRIUS Innovation

Typ / Type: 3RV ...

dieser Prüfbericht enthält das Ergebnis einer einmaligen Untersuchung an dem zur Prüfung vorgelegten Erzeugnis. Ein Muster dieses Erzeugnisses wurde geprüft, um die Übereinstimmung mit den nachfolgend aufgeführten Normen bzw. Abschnitten von Normen festzustellen. Die Prüfung wurde durchgeführt vom 2014-05-27 bis 2014-06-02.

This test report contains the result of a singular investigation carried out on the product submitted. A sample of this product was tested to found the accordance with the thereafter listed standards or clauses of standards resp. The testing was carried out from 2014-05-27 to 2014-06-02.

Der Prüfbericht berechtigt Sie nicht zur Benutzung eines Zertifizierungszeichens des VDE und berücksichtigt ausschließlich die Anforderungen der unten genannten Regelwerke.

The test report does not entitle for the use of a VDE Certification Mark and considers solely the requirements of the specifications mentioned below.



EIN UNTERNEHMEN DES **VDE** VERBAND DER ELEKTROTECHNIK ELEKTRONIK INFORMATIONSTECHNIK e.V.

.../2

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Dipl.-Ing./Dipl.-Kfm. Wilfried Jäger
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Kto Nr.: 198 027 000
S.W.I.F.T.-Code:
DRES DE FF XXX
IBAN
DE 91500800000198027000

Benannte Stelle nach dem Produktsicherheitsgesetz (ProdSG) und der EMV-Richtlinie 2004/108/EG. Akkreditiert nach DIN EN ISO/IEC 17021, 17025 und DIN EN 45011. Anerkannte Prüf- und Zertifizierungsstelle für internationale (IECEE und IECQ) und europäische Zertifizierungssysteme (CCA, HAR, ENEC).

Seite 2 - 25.07.2014

Unser Zeichen: 40010-9020-0005/193879
CC4/df-wah

Wenn gegenüber Dritten auf diesen Prüfbericht Bezug genommen wird, muss dieser Prüfbericht in voller Länge an gleicher Stelle verfügbar gemacht werden.

Whenever reference is made to this test report towards third party, this test report shall be made available on the very spot in full length.

Aufgabe

Prüfung der Feuerbeständigkeit an Leitungsschaltern zur Verwendung in Geräten für den unbeaufsichtigten Betrieb.

Änderungen bei den eingesetzten Materialien im Vergleich zum Prüfbericht mit dem VDE-Aktenzeichen 40010-9020-0005/107725 vom 2010-06-30 erforderten die erneute Prüfung einzelner Teile.

Prüfgrundlage

DIN EN 60335-1 (VDE 0700-1):2012-10; EN 60335-1:2012
Abschnitt 30.2

Prüfergebnis

siehe Anlage 1 (22 Seiten)

Anmerkung

Die Farb- und Materialbezeichnungen entsprechen den Angaben des Auftraggebers.

Die Prüfung erfolgte an neuen und unbenutzten Prüfmustern.

VDE Prüf- und Zertifizierungsinstitut GmbH
CC4

Kabel und Leitungen, Datenkabel, Kabelführungssysteme, Materialprüfungen



Reiner Lehrer
Reviewer



Regina Dorf
Test Engineer



EIN UNTERNEHMEN DES **VDE** VERBAND DER ELEKTROTECHNIK ELEKTRONIK INFORMATIONSTECHNIK e.V.

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Kto.Nr.: 198 027 000
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DE 91500800000198027000

Benannte Stelle nach dem Produktsicherheitsgesetz (ProdSG)
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Anerkannte Prüf- und Zertifizierungsstelle für internationale
(IECEE und IECQ) und europäische Zertifizierungssysteme
(CCA, HAR, ENEC).

Confirmation

Bestätigung

Product identification: **Circuit Breaker 3RV2 with screw and spring load terminals**
Produktbezeichnung *Leistungsschalter 3RV2 in Schraub- und Federzuganschlusstechnik*

Manufacturer: **Siemens AG, DF CP**
Hersteller

Address: **DE-92220 Amberg**
Anschrift

Protective separation

Sichere Trennung

Test specifications applied: **IEC 60947-1: 2014-09, Edition 5.2 Annex N**
Angewandte Prüfbestimmungen

Hereby we confirm the following maximum voltages for “protective separation” as shown in the annex.

Wir bestätigen die folgenden maximalen Spannungen für Sichere Trennung wie in der Anlage beschrieben.

Siemens Aktiengesellschaft
DF CP R&D
92220 Amberg

2017-07-21 Amberg
date of issue place

This confirmation does not imply any guarantee of quality or durability. The safety instructions of the accompanying product documentation shall be observed.
Diese Bestätigung enthält keine Beschaffenheits- oder Haltbarkeitsgarantie. Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten.

Siemens Aktiengesellschaft: Chairman of the Supervisory Board: Gerhard Cromme;
Managing Board: Joe Kaeser, Chairman, President and Chief Executive Officer; Roland Busch, Lisa Davis, Klaus Helmrich, Janina Kugel, Cedrik Neike, Michael Sen, Ralf P. Thomas;
Registered offices: Berlin and Munich, Germany; Commercial registries: Berlin Charlottenburg, HRB 12300, Munich, HRB 6684; WEEE-Reg.-No. DE 23691322

**protective separation - circuit breaker 3RV2....1.
with screw terminals**

**A0268 Annex
page 1 of 2**

The electrically protective separation between main circuit and main circuit always valid 400V.

The electrically protective separation between auxiliary circuits/bobbin circuit always valid 400V.

The electrically protective separation between main circuit and auxiliary circuits/bobbin circuit see table:

Accessories		MLFB	Auxiliary Contact	Size S00 3RV2.1-...1. Main Contact	Size S0 3RV2.2-...1. Main Contact	Size S2 3RV2.31-...1. Main Contact	Size S2 3RV2.32-...1. Main Contact	Size S3 3RV2.4-...1. Main Contact
Auxiliary switch top-mounting	1NO+1NC changeover	3RV2901-1D	11 - 12 - 14	500	500	500	500	690
	1NO + 1NC	3RV2901-1E	13 - 14 21 - 22					
	2NO	3RV2901-1F	13 - 14 23 - 24	400	400	500	500	690
	1NO+1NC changeover, micro switch	3RV2901-1G	11 - 12 - 14					
Auxiliary switch side-mounting	1NO + 1NC	3RV2901-1A	33 - 34	400	400	500	400	400
			41 - 42			690	690	690
	2NO	3RV2901-1B	33 - 34			500	500	
			43 - 44			690	690	690
	2NC	3RV2901-1C	31 - 32	400	400	500	500	
			41 - 42			690	690	400
	2NO + 2NC	3RV2901-1J	13 - 14	400	400	500	400	
			21 - 22	690	690	690	690	690
			31 - 32					
Alarm switch side-mounting		3RV2921-1M	43 - 44					
			57 - 58	500	500	690	690	690
			65 - 66	400	400	400	400	400
			77 - 78	500	500	690	690	690
Releases	Shunt trip unit	3RV2902-1D..	C1 - C2	400	400	690	690	690
	Undervoltage trip unit	3RV2902-1A..	D1 - D2	500	500			
		3RV2922-1C..	07 - 08					
Circuit breaker with overload function			95 - 96	500	500	690	690	690
			97 - 98					

All data are electrical net-data with 10% overvoltage in voltage [V].

400V + 10% comply with 415V + 5%, as well as 500V + 10% comply with 525V + 5%.

**protective separation - circuit breaker 3RV2...-...2.
with spring loaded terminals**

**A0268 Annex
page 2 of 2**

The electrically protective separation between main circuit and main circuit always valid 400V.

The electrically protective separation between auxiliary circuits/bobbin circuit always valid 400V.

The electrically protective separation between main circuit and auxiliary circuits/bobbin circuit see table:

Zubehör		MLFB	Auxiliary Contact	Size S00 3RV2.1.-...2. Main Contact	Size S0 3RV2.2.-...2. Main Contact
Auxiliary switch top-mounting	1NO + 1NC	3RV2901-2E	13 - 14	690	690
			21 - 22		
	2NO	3RV2901-2F	13 - 14	500	500
			23 - 24		
Auxiliary switch side-mounting	1NO + 1NC	3RV2901-2A	33 - 34	500	500
			41 - 42	690	690
	2NO	3RV2901-2B	33 - 34	500	500
			43 - 44	690	690
	2NC	3RV2901-2C	31 - 32	500	500
			41 - 42	690	690
Alarm switch side-mounting		3RV2921-2M	57 - 58	690	690
			65 - 66	400	400
			77 - 78	690	690
			85 - 86		
Releases	Shunt trip unit	3RV2902-2D..	C1 - C2	500	500
	Undervoltage trip unit	3RV2902-2A..	D1 - D2		
		3RV2922-2C..	07 - 08	690	690

All data are electrical net-data with 10% overvoltage in voltage [V].

400V + 10% comply with 415V + 5%, as well as 500V + 10% comply with 525V + 5%.



Polski Rejestr Statków

TYPE APPROVAL CERTIFICATE

This is to certify that the undernoted product type

SIRIUS Innovation

Circuit Breakers:
3RV2.1, 3RV2.2 Size S00/S0
3RV2.3 Size S2
Accessories:
3RV29, 8US1 and 3RV19

issued to

Siemens AG GWA
Werner-von-Siemens-Str. 48
D-92220 Amberg
Germany

is approved as complying with the requirements of the

PRS Rules for Classification and Construction of Sea-going Ships.

Certificate No. TE/2128/883241/16

Expiry date 2021-10-27

Issued at

Gdańsk, 2016-10-28

Signature

Polski Rejestr Statków S.A.
 al. Gen. Józefa Hallera 126
 80-416 Gdańsk, Poland

Tel. +(48) 58 346 17 00
 Fax +(48) 58 346 03 92

e-mail: mailbox@prs.pl
 www: http://www.prs.pl/

Continued overleaf

Technical data

Circuit Breaker: 3RV20, 3RV21, 3RV23, 3RV24, 3RV27, 3RV28, 3RV29.

Circuit Breaker accessories: 3RV29, 8US1, 3RV19.

Technical data:

Rated operational voltage: Ue 690V

Rated insulation voltage: Ui 690V

Rated impulse withstand voltage: Uimp 6 kV (3RV2901-D,-E,-F,-1G: 4 kV)

Rated frequency: 50/60 Hz

More: according to Siemens Catalogue IC 10 Edition 2016.

Basis of approval

1. The technical documentation approved by PRS on 2011-03-03 and 2016-10-21.
2. The inspection of the production process and quality control system carried out in February, 2008.
3. Reports from environmental tests carried out acc. to PRS Publication 11/P.
4. The Quality Management System Certificate No. 001108 QM08 issued by *DQS GmbH*.
5. PRS Survey Report No. TM/PU/10/16 issued on 2016-09-02.

Notes

- 1 The approval is valid only when the product is used in accordance with the manufacturer's conditions.
- 2 Changes of product design and materials which influence product quality are to be agreed with PRS.
- 3 Type Approval Certificate will be cancelled in the case of dissatisfactory service results, modifications made in the product structure or materials without PRS' consent, not advising PRS of the manufacturer's name change.

In carrying out survey activities Polski Rejestr Statków S.A. (PRS) makes efforts to ensure that they are conducted with conscientiousness and the principles of good practice, with due regard paid to the state-of-the-art technology. However, neither PRS nor its Surveyors shall bear any civil liability for damage, loss or expense which may arise in consequence or as the outcome of conducting these activities, or the result of information or advice given to the customer by PRS, irrespective of whether or not such were the result of neglect, error or lack of proper information. Nevertheless, should the customer prove that such damage, loss or expense was due to negligence on the part of the Society or its Surveyors, PRS will pay compensation to the customer for his loss up to but not exceeding the amount due for services provided, forming the basis of the customer's claim. In no cases will PRS be responsible for indirect losses (loss of prospective profits, loss of contract, inability to undertake activities, etc.) sustained by the customer and associated with the executing of a commission by PRS.

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Circuit Breaker

with type designation(s)
3RV2

Issued to

Siemens AG GWA
Amberg, Germany

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Rated Voltage (V) 690
Rated Current (A) 0,16 - 80
Frequency (Hz) 50/60

This Certificate is valid until **2021-06-02**.

Issued at **Hamburg** on **2016-06-03**

DNV GL local station: **Augsburg**

Approval Engineer: **Harald Amberger**

for **DNV GL**

.....
Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Ratings Circuit breaker 3RV2...	
Operational voltage U _e	690V
Insulation voltage U _i	690V
Impulse withstands voltage U _{imp}	6kV
Operational current I _e (40°C)	3RV2.1...: max. 16A 3RV2.2...: max. 40A 3RV2.3...: max. 80A
Range of settings	3RV2.1...: 0,11-0,16A up to 11-16A 3RV2.2...: 0,11-0,16A up to 34-40A 3RV2.3...: 9,5-14A up to 70-80A

Short-circuit capacity I_{CU}, I_{CS} acc. to IEC 60947-2											
		240VAC		400/415VAC		440/460VAC		500/525VAC		690VAC	
	I _n	I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}
Type	A	kA	kA	kA	kA	kA	kA	kA	kA	kA	kA
Size S00											
3RV2.1.	0.16...1.6	100	100	100	100	100	100	100	100	100	100
	2.0...3.2	100	100	100	100	100	100	100	100	10	10
	4.0...6.3	100	100	100	100	100	100	100	100	6	4
	8.0...12.5	100	100	100	100	50	50	42	42	6	4
	15; 16	100	100	55	30	50	10	10	5	4	4
Size S0											
3RV2.2.¹	0.16...1.6	100	100	100	100	100	100	100	100	100	100
	2.0...3.2	100	100	100	100	100	100	100	100	10	10
	4.0...6.3	100	100	100	100	100	100	100	100	6	4
	8.0...12.5	100	100	100	100	50	50	42	42	6	4
	16...25	100	100	55	25	50	10	10	5	4	2
	28; 32	100	100	55	25	30	10	10	5	4	2
	36; 40	100	100	20	10	12	8	6	3	3	2
Size S2											
3RV2.31	14...20	100	100	65	30	50	25	12	6	5	3
	25	100	100	65	30	50	15	12	6	5	3
	32...80	100	100	65	30	50	15	8	4	4	2
Size S2											
3RV2.32	14...25	100	100	100	50	65	30	18	10	8	5
	32...80	100	100	100	50	65	30	15	8	6	4

Further ratings according manufacturer documentation.

¹ For 3RV2.23 only ratings for 690VAC are valid

Job Id: **262.1-020878-1**
Certificate No: **TAE000014N**

Accessories; Basic types	
3RV2901-	Auxiliary switches
3RV2921-	Signaling switches
3RV2928/38-	Isolator modules
3RV2902-	Undervoltage trip units. Shunts release
3RV2922-	Undervoltage trip unit with leading auxiliary contacts
3RV1915/35-	Three-phase busbars
3RV2915/25/35-	Three-phase infeed terminals
3RV1927/2917/27	Infeed system
8SU1...	Busbar adapters for 60 mm systems

Ratings and mounting locations according manufacturer documentation.

Application/Limitation

Location Classes:

Temperature: D, Humidity: B, Vibration: A, Enclosure: IP20,

For installation inside switchboards/ enclosures onboard ships and offshore units.

Back-up fuse required if short-circuit current at the place of installation > Icu.

With Uimp=6kV; Overvoltage category II applies for applications in IT systems > 600 V.

Type Approval documentation

07049TMI01a, 07049TMI02a, 07049TMI03a, 07049TMI04a, 11101ENI01, 12104ENI01, 13011ENI01, 13011ENI02, 09052Tms, 13012ENS, 14031PMV06, 21243174-002

Tests carried out

IEC 60947-2, IEC 60947-4-1, IEC 60947-5-1, cold, dry heat, damp heat, vibration, inclination, flame retardancy.

Marking of product

Manufacturers label containing data and manufacturers type number.

Name and place of manufacturer

Siemens AG, GWA
Werner-von-Siemens-Str. 48
92220 Amberg
Germany

Siemens San. ve Tic. A.Ş
Esentepe Mah. Yakaclk Cad. No.111
34870 Kartal-Istanbul
Turkey

Siemens s.r.o
Volanovská 516
541 01 Trutnov
Česká republika

Job Id: **262.1-020878-1**
Certificate No: **TAE000014N**

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable).
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out).
- Review of type approval documentation.
- Review of possible change in design, materials and performance.
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.
- Assessment to be performed at least every 2½ year.

END OF CERTIFICATE