

CERTIFICATE OF COMPLIANCE

Certificate Number 20131011 – E47705
Report Reference E47705 - 20090617
Issue Date 2013-October-11

Issued to: SIEMENS AG
I IA CE CP R&D-VI 4
WERNER-VON-SIEMENS-STRASSE 48
92220 AMBERG, GERMANY


This is to certify that representative samples of Motor Controllers, Manual
(See following pages for additional model 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," ANSI/UL 60947-4-1A, "Low-Voltage Switchgear and Controlgear - Part 4-1A: Contactors and Motor-Starters - Electromechanical Contactors and Motor-Starters," CAN/CSA-C22.2 No. 60947-1 (2007), "Low-Voltage Switchgear and Controlgear - Part 1: General Rules," and CAN/CSA-C22.2 No. 60947-4-1 (2007), "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 Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers:  the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.



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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.

Additional Model Information:

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 Je.

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 0.7-1 A (-0J)

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

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

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

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

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

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

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



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

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

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	1/10	-
200/208 V	1/6	1/2
230/240 V	1/4	3/4
460/480 V	-	1 1/2
575/600 V	-	2

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	1/8	-
200/208 V	1/4	3/4
230/240 V	1/3	3/4
460/480 V	-	2
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	1/6	1/2
200/208 V	1/3	1
230/240 V	1/2	1
460/480 V	-	3
575/600 V	-	3



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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	1/2
200/208 V	1/2	1
230/240 V	1/2	1 1/2
460/480 V	-	3
575/600 V	-	5

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

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

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

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



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

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	½	1 ½
200/208 V	1 ½	3
230/240 V	2	3
460/480 V	-	7 ½
575/600 V	-	10

Horsepower Setting Range 11-16 A (-4A)

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	-	10 ¹⁾

Horsepower Setting Range 14-20 A (-4B)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1 ½	3
200/208 V	3	5
230/240 V	3	5
460/480 V	-	10
575/600 V	-	15 ¹⁾

Horsepower Setting Range 17-22 A (-4C)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	1 ½	3
200/208 V	3	5
230/240 V	3	7 ½
460/480 V	-	15
575/600 V	-	20 ¹⁾



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Horsepower Setting Range 20-25 A (-4D)

Voltage	Horsepower 1-ph	Horsepower 3-ph
115/120 V	2	3
200 V	3	5
208 V	3	7 1/2
230/240 V	3	7 1/2
460/480 V	-	15
575/600 V	-	20 ¹⁾

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

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

Voltage	Horsepower 1-ph	Horsepower 3-ph
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)

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



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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 ½	10
460/480 V	-	30
575/600 V	-	-

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



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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.

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 3RV2.11, 3RV2.21	max. Fuse Class J 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	11	16	60 A	60 A
-4B	14	20	80 A	80 A



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NOMENCLATURE BREAKDOWN (Cont.)

Suffix	From	to (A)	max. Fuse or CB 3RV2.11, 3RV2.21	max. Fuse Class J 3RV2.23
-4C	17	22	80 A	80 A
-4D	20	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	-

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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