

SIEMENS

Prüf-Nr./Q-Nr.: **1675 b**
Certificate No.:

Dienststelle: **A&D CD CC TS2 / Schröck**
Department:

Ort: **Amberg** Tag: **2007-10-22**
Place: Date:

Anlagen: **Test Report No 1675a**
Enclosures:

Prüfbescheinigung / Test - Certificate

Erzeugnis / Product: **Short Circuit Combination of Contactors**

Typ: **3TF20, 3TF30, 3TF40, 3TF31,**
Type: **3TF41, 3TF32, 3TF42, 3TF33,**
3TF43, 3TF34, 3TF44, 3TF35,
3TF45, 3TF46, 3TF47, 3TF48,
3TF49, 3TF50, 3TF51, 3TF52,
3TF53, 3TF54, 3TF55, 3TF56,
3TF57, 3TF68, 3TF69
3UA

Tech. Daten: **U_e = 400 V, I_q = 6 kA**
Specification: **U_e = 400 V, I_q = 50 kA**

Hersteller: **Siemens AG**
Manufacturer: **A&D CD CC**

Type "1" Co-Ordination
Type "2" Co-Ordination

Art der Prüfung / Type of test: **Performance under short-circuit conditions**

Prüfer / Tested by: **T2 / Mr. Müller**
T1 / Mr. Hauer

Labor / Laboratory: **Testing Laboratory**
Siemens AG, Amberg

Angewandte Prüfbestimmungen / Test specifications applied:

IEC 60947-4-1, Ed. 2.1: 2002-12 + AMD. 2: 2005-06, DIN EN 60947-4-1: 2006-04

Durchgeführte Prüfungen / Tests conducted:

Test Sequence III: Performance under short-circuit conditions

Prüfergebnis / Test results:

All requirements of the test specification are met. See the attached test sheets for details.

Bemerkungen / Remarks: **Issued: 1993-04-23**

These Tests are valid for contactors 3TF20 through 3TF69 and the suitable overload relays 3UA.


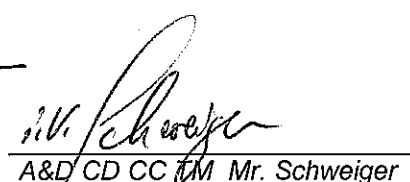
Index a, dated 1993-10-20: Data for Type 3 co-ordination "no welding" according to DIN VDE 0660 Part 100/A21/Draft Sept. 1993 added, some data approved.

Index b, dated 2007-10-22: Standards updated. Test report No. 1675a cover also the requirements of IEC 60947-4-1, Ed. 2.1: 2002-12 + AMD. 2: 2005-06, DIN EN 60947-4-1: 2006-04.

Unterschrift / Signature



Gegengezeichnet / Released by:


A&D CD CC TS Mr. Walker
A&D CD CC TM Mr. Schweiger

SIEMENS AKTIENGESELLSCHAFT

Automation and Drives

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Sitz der Gesellschaft: Berlin und München; Registergericht: Berlin Charlottenburg, HRB 12300, München, HRB 6684

Formular: October 2007

Type test according : IEC 947-4-1
DIN VDE 0660 Teil 102

Type : 3TF

Samp-les	Specification and sub-clause	Kind of tests and requirements	Test values Results
	8.3.4.2.1	<p>Test at the prospective current "r"</p> <p>Rated operational current $I_e =$ A</p> <p>Prospective current "r" "r" = kA</p> <p>Test voltage</p> <p>Power factor $\cos \phi = 0,9$</p> <p>Test sequence O - CO</p>	see to enclosures
	8.3.4.2.2	<p>Test at the rated conditional short-circuit current</p> <p>Rated short-circuit current $I_q =$ kA</p> <p>Test voltage V</p> <p>Power factor $\cos \phi =$</p> <p>Test sequence O - CO</p>	see to enclosures
	8.3.4.2.3	<p>Results to be obtained</p> <p><u>For both types of co-ordination</u></p> <p>A Fuse element between the enclosure and supply not melted</p> <p>B Door or cover of the enclosure not opened</p> <p>C Conductors not separated</p> <p>D No cracking or breaking of an insulation mounting base</p> <p><u>For Type "1" co-ordination only</u></p> <p>H No discharge to parts beyond the enclosure</p> <p><u>For type "2" co-ordination only</u></p> <p>J No damage welded contacts may be easily separated</p> <p>K Tripping of the overload relay for $*I_e$</p> <p>- before the short-circuit test</p> <p>- after the short-circuit test</p> <p>L Insulation test</p> <p>- Test voltage $2xU_e$ (min 900 V)</p> <p>- Test time 1 min</p> <p>i Contacts closed</p> <p>ii Contacts open</p>	<p>not applicable</p> <p>not applicable</p> <p>met</p> <p>met</p> <p>met</p> <p>met</p> <p>met</p> <p>3500 V</p> <p>1 min</p> <p>met</p> <p>met</p>

Test laboratory:

20.10.93

Date

Contactors 3TF

without overload relays

Fuses of function class gG/gL (3NA3) in Ampere (A)

Contactor	3TF20	3TF40/30	3TF31/41	3TF42/32	3TF33/43	3TF34/44	3TF35/45
I_e AC-3/400 V	A	9	12	16	22	32	38
P AC-3/400 V	KW	4	6	7,7	11	15	18,5
Current "I"	KA	1	1	1	3	3	3
I_q	KA	50	50	50	50	50	50
max. fuse for							
Type "1" co-ordination	A	35	35	63	63	80	80
Type "2" co-ordination	A	25	25	25	25	80	80
no-welding							
Type "3" co-ordination 1)	A	--	--	16	16	25	25
$I_n > 100 \times I_e \leq I_q$	A	10	10	16	16	25	25

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept. 93 only.

Contactors 3TF
with overload relays

Fuses of function class gG/gL (3NA3) in Ampere (A)

Contactor	3TF20	3TF30/40	3TF31/41	3TF32/42	3TF33/43	3TF34/44	3TF35/45
I _e AC-3/400 V	A	9	12	16	22	32	38
P AC-3/400 V	KW	4	6	7,7	11	15	18,5
Overload relays	3UA70	3UA50	3UA52	3UA52	3UA52	3UA55	3UA55
Setting range	A 6,3 - 10	6,3 - 10	8 - 12,5	10 - 16	16 - 25	20 - 32	32 - 40
Current "r"	KA 1	1	1	1	3	3	3
I _q	KA 6	50	50	50	50	50	50
max. fuse for							
Type "1" co-ordination	A 25	35	35	63	63	80	80
Type "2" co-ordination	A 10	25	25	25	25	80	80
no-welding							
Type "3" co-ordination 1)	A 10	--	--	16	16	25	25
I _n > 100 x I _e ≤ I _q	A 10	10	10	16	16	25	25

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept.93 only.

Contactors 3TF

without overload relays

Fuses of function class gG/gL (3NA3) in Ampere (A)

Contactor	3TF46	3TF47	3TF48	3TF49	3TF50	3TF51	3TF52
I_e AC-3/400 V	A 45	63	75	85	110	140	170
P AC-3/400 V	KW 22	30	37	45	55	75	90
Current "I"	KA 3	3	5	5	5	10	10
I_q	KA 50	50	50	50	50	50	50
max. fuse for							
Type "1" co-ordination	A 160	160	250	250	400	400	400
Type "2" co-ordination	A 125	125	160	160	224	250	250
no-welding	A 35	63	125	125	160	160	160
Type "3" co-ordination 1)	A 35	80	125	125	200	200	315

Enclosure 3 to Test Certificate No. 1675a

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept.93 only

3TF Contactors

without overload relays

Fuses of function class gG/gL (3NA3) in Ampere (A)

Contactor	3TF53	3TF54	3TF55	3TF56	3TF57	3TF68	3TF69
I_e AC-3/400 V	A 205	250	300	400	475	630	820
P AC-3/400 V	kW 110	132	160	200	250	335	450
Current "I"	kA 10	10	10	18	18	18	30
I_q	kA 50	50	50	50	50	50	50
max. fuse for							
Type "1" co-ordination	A 400	500	500	800	800	1000	1250
Type "2" co-ordination	A 250	400	400	500	500	500	630
no-welding							
Type "3" co-ordination 1)	A 160	200	200	315	315	400	500
$I_n > 100 \times I_e \leq I_q$	A 315	500	500	630	630	400	500

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept.93 only.

Contactors 3TF

with overload relays

Fuses of function class gG/gL (3NA3) in Ampere (A)

Contactor	3TF46	3TF47	3TF48	3TF49	3TF50	3TF51	3TF52
I_e AC-3/400 V	A	63	75	85	110	140	170
P AC-3/400 V	kW	30	37	45	55	75	90
Overload relays	3UA	58 - 2P	58 - 2U	58 - 8W	60 - 2X	61 - 3K	62 - 3E
Setting range	A	50 - 63	63 - 80	70 - 88	80 - 110	120 - 150	150 - 180
Current "I"	kA	3	5	5	5	10	10
I_q	kA	50	50	50	50	50	50
max. fuse of							
Type "1" co-ordination	A	160	250	250	400	400	400
Type "2" co-ordination	A	125	160	160	200	250	250
no-welding							
Type "3" co-ordination 1)	A	35	125	125	160	160	160
I_n 100 x I_e - I_q	A	35	125	125	200	200	315

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept. 93 only.

Contactors 3TF

with overload relays

Fuses of function class gG/gL (3NA3) in Ampere (A)

Contactor	3TF53	3TF54	3TF55	3TF56	3TF57	3TF68	3TF69
I_e AC-3/400 V	A 205	250	300	400	475	630	820
P AC-3/400 V	kW 110	132	160	200	250	335	450
Overload relays	3UA 66 - 3C	66 - 3C	66 - 3D	66 - 3E	68 - 3F	68 - 3G	3UF 1868-3G
Setting range	A 160 - 250	160 - 250	200 - 320	250 - 400	320 - 500	400 - 630	820
Current "I"	kA 10	10	10	18	18	18	30
I_q	kA 50	50	50	50	50	50	50
max. fuse for							
Type "1" co-ordination	A 400	500	500	800	800	1000	1250
Type "2" co-ordination	A 250	400	400	500	500	500	630
no-welding							
Type "3" co-ordination 1)	A 160	200	200	315	315	400	500
$I_n \rightarrow 100 \times I_e \leq I_q$	A 315	500	500	630	630	400	500

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept. 93 only.

Contactors 3TF

with overload relays

Fuses of function class aM (3ND) in Ampere (A)

Contactor	3TF46	3TF47	3TF48	3TF49	3TF50	3TF51	3TF52
I _e AC-3/400 V	A 45	63	75	85	110	140	170
P AC-3/400 V	kW 22	30	37	45	55	75	90
Overload relays	3UA 58 - 2F	58 - 2P	58 - 2V	58 - 8W	60 - 3X	61 - 3K	62 - 3E
Setting range	A 32 - 50	50 - 63	63 - 80	70 - 88	80 - 110	120 - 150	150 - 180
Current "I" I _q	kA 3 50	3 50	5 50	5 50	5 50	10 50	10 50
max. fuse for							
Type "2" co-ordination no-welding	A 50	63	80	100	125	160	200
Type "3" co-ordination 1)	A 35	63	80	100	125	160	160

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept. 93 only.

Contactors 3TF

without overload relays

Fuses of function class aM (3ND) in Ampere (A)

Contactor	3TF53	3TF54	3TF55	3TF56	3TF57	3TF68	3TF69
I _e AC-3/400 V	A 205	250	300	400	475	630	820
P AC-3/400 V	kW 110	132	160	200	250	335	450
Overload relays	3UA 66 - 3C	66 - 3C	66 - 3D	66 - 3E	68 - 3F	68 - 3G	3UF1868-3G
Setting range	A 160 - 250	160 - 250	200 - 320	250 - 400	320 - 500	400 - 630	820
Current "I" I _q	kA 10 50	10 50	10 50	18 50	18 50	18 50	30 50
max. fuse for							
Type "2" co-ordination no-welding	A 250	250	315	400	630	630	630
Type "3" co-ordination 1)	A 160	200	200	315	315	400	500

1) analogous IEC 947-4, but for Type "3" co-ordination there is a draft of DIN VDE 0660 Part 100 A21 from Sept. 93 only.