

Prüfbescheinigung Test- certificate

Nr. (No.): 2657 c

2018-09-07

Mit Ausstellungsdatum bestätigen wir (*With the date of issue we confirm*):

Erzeugnis: Circuit Breaker SENTRON VL160, VL250, VL400 and VL630
Product

Typ: 3VL27, 3VL37, 3VL47, Tech. Daten: $I_{e AC-3} = 160 A, 250 A, 315 A$ Hersteller Siemens AG
Type 3VL57 *Specification* or 500 A @ 690V *Manufacturer*
 $I_{cu (415V)} = 55, 70 \text{ and } 100kA$

Art der Prüfung: Type Test - Motor protection
Type of test

Prüfer: DF CP R&D VC 1 Labor: Type Test Center Siemens AG Amberg
Tested by Mr. Prechtl-Schöpf *Laboratory* Werner-von-Siemens-Str. 48
92220 Amberg / Germany

Angewandte Prüfbestimmungen/ *Test specifications applied*:

IEC 60947-1:2007 + A1:2010 + A2:2014
IEC 60947-4-1:2009 + A1:2012

Durchgeführte Prüfungen/ *Test conducted*:

Test Sequence I, II according to IEC 60947-4-1

Prüfergebnis/ *Test results*:

All requirements of the test specification are met.

Bemerkungen: Issued: 2004-07-30
Remarks

Index a, dated 2009-07-09: Standards updated; Test protocols added; Test summary attached; New electronic trip unit (Alex ETU) added.

Index b, dated 2011-02-21: Standards updated.

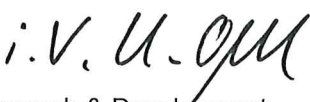
Index c, dated 2018-09-07: Standards updated.

This test report covers SENTRON VL160, VL250, VL400 and VL630 – Motor Protection function.
For Type test reports according to IEC 60947-2 refer to the single type test reports.

Bei dieser Bescheinigung handelt es sich nicht um eine Garantie im Rechtssinne, insbesondere Garantien im Sinne der §§ 443, 444 BGB oder § 639 BGB.

This certificate does not constitute a guarantee in the legal sense as it is defined by law, in particular in section 443, 444 or 639 of the German Civil Code (BGB).

Siemens Aktiengesellschaft

Dr. Klaus Orth 
Entwicklung/ Research & Development


Achim Gerber
Qualität/ Quality

Siemens AG

Energy Management Division; Management: Ralf Christian
Business Unit Low Voltage & Products; Management: Andreas Matthe

Briefadresse: Siemens AG
(Mailing Address) EM LP PI AT TF-AMB

Postfach 10 09 53
93009 Regensburg

Name *(Name)*:
Petra Knerer
Hausadresse *(Address)*:
Werner-von-Siemens-Str. 52
92224 Amberg

Siemens Aktiengesellschaft; Vorsitzender des Aufsichtsrats: Jim Hagemann Snabe; Vorstand: Joe Kaeser, Vorsitzender;
Roland Busch, Lisa Davis, Klaus Helmrich, Janina Kugel, Cedrik Neike, Michael Sen, Ralf P. Thomas
Sitz der Gesellschaft: Berlin und München, Deutschland; Registergericht: Berlin Charlottenburg, HRB 12300, München, HRB 6684
WEEE-Reg.-Nr. DE 23691322

Test summary

Manufacturer: **Siemens AG, Energy Management
Siemensstraße 10, 93055 Regensburg**

Test device: **Circuit breaker and accessories**

Type: **3VL27, 3VL37, 3VL47, 3VL57**

Test specification: **IEC 60947-1:2007 + A1:2010 + A2:2014
IEC 60947-4-1:2009 + A1:2012**

Test report Nos.: **02051PDL, 02052PDL, 02053PDL, 02054PDL and 08039PDL02**

Test protocol Nos.:

Test report No.: 02051PDL

Test-sequence and sub-clause	Test
IEC 60947-4-1	
Test-sequence I	
8.3.3.3	Verification of temperature-rise
8.3.3.1 / 8.3.3.2	Verification of operation and operating limits
8.3.3.4	Verification of dielectric properties
Test-sequence II	
8.3.3.5	Rated making and breaking capacities
8.3.3.6	Verification of operational performance

Test report No.: 02052PDL

Test-sequence and sub-clause	Test
IEC 60947-4-1	
Test-sequence I	
8.3.3.3	Verification of temperature-rise
8.3.3.1 / 8.3.3.2	Verification of operation and operating limits
8.3.3.4	Verification of dielectric properties
Test-sequence II	
8.3.3.5	Rated making and breaking capacities
8.3.3.6	Verification of operational performance

Test report No.: 02053PDL

Test-sequence and sub-clause	Test
IEC 60947-4-1	
Test-sequence I	
9.3.3.3	Verification of temperature-rise
9.3.3.1 / 9.3.3.2	Verification of operation and operating limits
9.3.3.4	Verification of dielectric properties
Test-sequence II	
9.3.3.5	Rated making and breaking capacities
9.3.3.6	Verification of operational performance

Test report No.: 02054PDL

Test-sequence and sub-clause	Test
IEC 60947-4-1	
Test-sequence II	
8.3.3.5	Rated making and breaking capacities
8.3.3.6	Verification of operational performance

Test report No.: 08039PDL02

Test-sequence and sub-clause	Test
IEC 60947-4-1	
Test-sequence I	
9.3.3.3	Verification of temperature-rise
9.3.3.1 / 9.3.3.2	Verification of operation and operating limits
9.3.3.4	Verification of dielectric properties
Test-sequence II	
9.3.3.5	Rated making and breaking capacities
9.3.3.6	Verification of operational performance

Remarks:

Test Laboratory:

Type Test Center Siemens AG Amberg
Werner-von-Siemens-Str. 48
92220 Amberg / Germany

Test report no.: 02051PDL

According to IEC 60947-4-1 to cover motor protection function

Test report no.: 02052PDL

According to IEC 60947-4-1 to cover motor protection function

Test report no.: 02053PDL

According to IEC 60947-4-1 to cover motor protection function

Test report no.: 02054PDL

According to IEC 60947-4-1 to cover motor protection function

Test report no.: 08039PDL02

According to IEC 60947-4-1 to cover motor protection function electronic trip unit version Alex-ETU plus retest for standard update IEC 60947-1: 06.2007 and IEC 60947-4-1: 11.2000 + Amd.1: 09.2002 + Amd.2: 06.2005

Amberg, 10.05.18
Location, Date

P. Weiss
Signature
(Head of Laboratory)
Mr. Weiss

Ratings

Main Circuit

Utilization category	A
Interruption medium (air, vacuum, gas Break)	air
Design (open construction, moulded case)	moulded case
Method of installation: (fixed, plug in, etc.)	fixed, plug in
Degree of protection (IP code)	IP 20
Environment A or B	A
Circuit-breaker for use on phase-earthed systems	yes
Rated voltage Ue	690 Vac
Rated insulation voltage Ui	800 V
Rated imp. withstand voltage Uimp	8 kV
Rated current Ie at 50 °C	25 A – 500 A
Rated current ETU	50A, 63A, 80A, 100A, 125A, 160A, 200A, 250A, 315A, 400A, 500A
Kind of current	AC
Number of poles	3
Rated frequency	50/60 Hz

AC-Breaking / switching capacity for 3VL27	N	H	L
Breaking current (kA) Icu, 230 V	65	100	200
Breaking current (kA) Icu, 415 V	55	70	100
Breaking current (kA) Icu, 440 V	25	50	75
Breaking current (kA) Icu, 500 V	25	40	50
Breaking current (kA) Icu, 690 V	12	12	12
Breaking current (kA) Ics, 230 V	65	75	150
Breaking current (kA) Ics, 415 V	55	70	75
Breaking current (kA) Ics, 440 V	20	38	50
Breaking current (kA) Ics, 500 V	20	30	38
Breaking current (kA) Ics, 690 V	6	6	6
Breaking current (kA) Icm, 415 V	121	154	220
Breaking current (kA) lit, 690 V	3		

AC-Breaking / switching capacity for 3VL37	N	H	L
Breaking current (kA) Icu, 230 V	65	100	200
Breaking current (kA) Icu, 415 V	55	70	100
Breaking current (kA) Icu, 440 V	25	50	75
Breaking current (kA) Icu, 500 V	25	40	50
Breaking current (kA) Icu, 690 V	12	12	12
Breaking current (kA) Ics, 230 V	65	75	150
Breaking current (kA) Ics, 415 V	55	70	75
Breaking current (kA) Ics, 440 V	20	38	50
Breaking current (kA) Ics, 500 V	20	30	38
Breaking current (kA) Ics, 690 V	6	6	6
Breaking current (kA) Icm, 415 V	121	154	220
Breaking current (kA) lit, 690 V	3,5		

AC-Breaking / switching capacity for 3VL47	N	H	L
Breaking current (kA) I _{cu} , 230 V	65	100	200
Breaking current (kA) I _{cu} , 415 V	55	70	100
Breaking current (kA) I _{cu} , 440 V	35	50	75
Breaking current (kA) I _{cu} , 500 V	25	40	50
Breaking current (kA) I _{cu} , 690 V	15	15	15
Breaking current (kA) I _{cs} , 230 V	65	75	150
Breaking current (kA) I _{cs} , 415 V	55	70	75
Breaking current (kA) I _{cs} , 440 V	26	38	50
Breaking current (kA) I _{cs} , 500 V	20	30	38
Breaking current (kA) I _{cs} , 690 V	8	8	8
Breaking current (kA) I _{cm} , 415 V	121	154	220
Breaking current (kA) I _{it} , 690 V	5,5		

AC-Breaking / switching capacity for 3VL57	N	H	L
Breaking current (kA) I _{cu} , 230 V	65	100	200
Breaking current (kA) I _{cu} , 415 V	55	70	100
Breaking current (kA) I _{cu} , 440 V	35	50	75
Breaking current (kA) I _{cu} , 500 V	25	40	50
Breaking current (kA) I _{cu} , 690 V	20	20	20
Breaking current (kA) I _{cs} , 230 V	65	75	150
Breaking current (kA) I _{cs} , 415 V	55	70	75
Breaking current (kA) I _{cs} , 440 V	26	38	50
Breaking current (kA) I _{cs} , 500 V	20	30	38
Breaking current (kA) I _{cs} , 690 V	10	10	10
Breaking current (kA) I _{cm} , 415 V	121	154	220
Breaking current (kA) I _{it} , 690 V	8,7		