



Test Report issued under the responsibility of:



<b>TEST REPORT</b> <b>EN 60947-2</b> <b>Low-voltage switchgear and controlgear - Part 2: Circuit-breakers</b>	
Report Reference No.....	00901-CE20150303-007275
Date of issue.....	2015-07-13
Total number of pages .....	174
<b>CB Testing Laboratory</b> .....	Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE)
Address .....	505 Wu Ning Rd. Shanghai 200063, P.R. CHINA
<b>Applicant's name</b> .....	Zhejiang Tengen Electrics Co.,Ltd.
Address .....	TENGEN Industry Zone, Liushi, Yueqing, Zhejiang Province, P.R.China
<b>Test specification:</b>	
Standard .....	EN 60947-2:2006 (Fourth Edition) + A1: 2009 + A2: 2013
Test procedure .....	CCA scheme
Non-standard test method.....	N/A
<b>Test Report Form No</b> .....	EN60947_2G
Test Report Form(s) Originator .....	DEKRA Certification BV
Master TRF .....	Dated 2013-11
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<b>Test item description</b> .....	Air Circuit Breaker
Trade Mark .....	N/A
Manufacturer .....	Zhejiang Tengen Electrics Co.,Ltd. TENGEN Industry Zone, Liushi, Yueqing, Zhejiang Province, P.R.China
Model/Type reference.....	TGW45-3200, TGW45-4000
Ratings .....	Ue: AC415V, AC690V In: 2000A, 2500A, 2900A, 3150A, 3200A (TGW45-3200 3P/4P); 4000A (TGW45-4000 3P)

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE)
<b>Testing location/ address.....:</b>		505 Wu Ning Rd. Shanghai 200063, P.R. CHINA
<b>Tested by (name + signature).....:</b>		Cheng Yanmin 
<b>Approved by (name + signature).....:</b>		Wei Qingyuan 
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<input type="checkbox"/>	<b>Testing procedure: TMP</b>	N/A
<b>Testing location/ address.....:</b>		N/A
<b>Tested by (name + signature).....:</b>		N/A
<b>Approved by (name + signature).....:</b>		N/A
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<input type="checkbox"/>	<b>Testing procedure: WMT</b>	N/A
<b>Testing location/ address.....:</b>		N/A
<b>Tested by (name + signature).....:</b>		N/A
<b>Witnessed by (name + signature) .....</b>		N/A
<b>Approved by (name + signature).....:</b>		N/A
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<input type="checkbox"/>	<b>Testing procedure: SMT</b>	N/A
<b>Testing location/ address.....:</b>		N/A
<b>Tested by (name + signature).....:</b>		N/A
<b>Approved by (name + signature).....:</b>		N/A
<b>Supervised by (name + signature) ...:</b>		N/A

**Summary of testing:**

In case of alternative test programs for circuit breakers with a different number of poles, the following program is used:

- Programme 1 (three pole fully tested)  
 Programme 2 (four pole fully tested)  
 Alternative program not applicable

**Tests performed (name of test and test clause 1/2):**

Type	Ue	In	Poles	Sequence
TGW45-4000 (Withdrawable assembled with auxiliary contact motor operator:AC415V/50Hz closing coil:AC415V/50Hz shunt release: AC415V/50Hz udervoltage release: AC415V/50Hz )	AC690V	4000A	3	I
TGW45-3200(Withdrawable assembled with shunt release: AC240V/50Hz udervoltage release: AC240V/50Hz )	AC690V	3200A	4	I
shunt release: DC110V udervoltage release: DC110V assembled on TGW45-4000	-	-	-	I <sup>1)</sup>
shunt release: DC220V udervoltage release: DC220V assembled on TGW45-4000	-	-	-	I <sup>1)</sup>
TGW45-4000 (Withdrawable)	AC415V	4000A	3	III
TGW45-3200 (Withdrawable)	AC415V	2000A	4	III
TGW45-4000 (Withdrawable underside)	AC690V	4000A	3	III
TGW45-4000 (Withdrawable)	AC415V	4000A	3	VI
TGW45-3200 (Withdrawable)	AC415V	2000A	4	VI
TGW45-4000 (Withdrawable underside)	AC690V	4000A	3	VI
TGW45-3200 (Fixed)	AC415V	3200A	4	VI
TGW45-3200 (Withdrawable)	AC415V	2000A	4	III(N)
TGW45-3200 (Fixed)	AC415V	3200A	4	IV(N)
TGW45-4000(Withdrawable)	690V	4000A	3	F

**Tests performed (name of test and test clause 2/2):**

Type	Ue(V)	In(A)	Poles	Sequence
TGW45-4000(Withdrawable)	690V	4000A	3	H
TGW45-3200(Withdrawable)	690V	3200A	4	H
Motor operator:AC240V/50Hz assembled with TGW45-4000	-	-	-	N
Motor operator:AC415V/50Hz assembled with TGW45-4000	-	-	-	N
Motor operator:DC110V assembled with TGW45-4000	-	-	-	N
Motor operator:DC220V assembled with TGW45-4000	-	-	-	N
Motor operator:DC24V assembled with TGW45-4000	-	-	-	N
Undervoltage release:AC240V assembled with TGW45-4000	-	-	-	N
Undervoltage release:AC415V assembled with TGW45-4000	-	-	-	N
Undervoltage release:DC110V assembled with TGW45-4000	-	-	-	N
Undervoltage release:DC220V assembled with TGW45-4000	-	-	-	N

**Auxiliary Testing(IEC 60947-5-1)**

Auxiliary contact (F5)	AC400V	0,9A	-	II,III,IV
Auxiliary contact (F5)	AC230V	1,5A	-	II,III
Auxiliary contact (F5)	DC110V	0,55A	-	II,III
Auxiliary contact (F5)	DC220V	0,27A	-	II,III

Remark:

1) Only test item for clause 8.3.3.3

**Testing location:**Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE)  
505 Wu Ning Rd. Shanghai 200063, P.R. CHINA**Summary of compliance with National Differences:** N/A