

Test Report issued under the responsibility of:



**TEST REPORT**  
**EN 60947-2**  
**Low-voltage switchgear and controlgear - Part 2: Circuit-breakers**

Report Number ..... : 03601-A-21D0100-S

Date of issue ..... : 2022-01-07

Total number of pages ..... : 155 pages

Name of Testing Laboratory preparing the Report ..... : Suzhou Electrical Apparatus Science Research Institute Co., Ltd. (EETI)

Applicant's name ..... : Zhejiang Tengen Smart Electrics Co., Ltd.

Address ..... : No. 2777 West Zhongshan Road, Xiuzhou District, Jiaxing, Zhejiang Province, P.R.China.

**Test specification:**

Standard ..... : EN 60947-2:2017/A1:2020

Test procedure ..... : CCA Scheme

Non-standard test method ..... : N/A

Test Report Form No. .... : EN 60947\_2J

Test Report Form(s) Originator.... : DEKRA Certification B.V.

Master TRF ..... : Dated 2020-03-31

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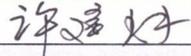
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<b>Test item description</b> .....	Moulded Case Circuit-Breaker	
<b>Trade Mark(s)</b> .....	Tengen	
<b>Manufacturer</b> .....	Zhejiang Tengen Smart Electrics Co., Ltd. No. 2777 West Zhongshan Road, Xiuzhou District, Jiaxing, Zhejiang Province, P.R.China.	
<b>Model/Type reference</b> .....	TGM1NE-800M,TGM1NE-800H,TGMKE-800M,TGMKE-800H, TGMGE-800M,TGMGE-800H,TGMHE-800M,TGMHE-800H	
<b>Ratings</b> .....	See page 10	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>Testing Laboratory:</b>	Suzhou Electrical Apparatus Science Research Institute Co., Ltd.(EETI)
	<b>Testing location/ address</b> .....	No.7 Yonghe Street, Binhe Road, New District, Suzhou, China
	<b>Tested by (name, function, signature)</b> .....	Fang Gang(Team leader) 
	<b>Approved by (name, function, signature) ..</b> :	Xu Jianlin(Supervisor) 
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	
	<b>Testing location/ address</b> .....	
	<b>Tested by (name, function, signature):</b>	
	<b>Approved by (name, function, signature) ..</b> :	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
	<b>Testing location/ address</b> .....	
	<b>Tested by (name + signature).....</b> :	
	<b>Witnessed by (name, function, signature) . :</b>	
	<b>Approved by (name, function, signature) ..</b> :	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
	<b>Testing location/ address</b> .....	
	<b>Tested by (name, function, signature):</b>	
	<b>Witnessed by (name, function, signature) . :</b>	
	<b>Approved by (name, function, signature) ..</b> :	
	<b>Supervised by (name, function, signature) :</b>	

<b>List of Attachments (including a total number of pages in each attachment):</b>	
Attachment 1: photos of the product (page 5,155)	
<b>Summary of testing:</b>	
<p><b>In case of alternative test programs for circuit breakers with a different number of poles, the following program is used:</b></p> <p><input type="checkbox"/> Programme 1 (three pole fully tested)</p> <p><input checked="" type="checkbox"/> Programme 2 (four pole fully tested)</p> <p><input type="checkbox"/> Alternative program not applicable</p>	
<b>Tests performed (name of test and test clause):</b>	<p>Sample No.:##21#22</p> <p>Mechanical properties of terminals 8.2.4</p> <p>Clearances and creepage distances 7.1.4</p> <p>Insulating material:</p> <p>Comparative tracking index 7.1.4</p> <p>Resistance to abnormal heat and fire 8.2.1.1.1</p> <p>Sample specifications:</p> <p>TGM1NE-800MP 800A 4P #01</p> <p>TGM1NE-800M 800A 3P #02</p> <p>TGMHE-800M/3300E2 800A 3P #03#04#05</p> <p>TGMHE-800M/3300E2 630A 3P #06</p> <p>TGMKE-800M/3300E2 800A 3P #11#12#13#17#20#21#22#25</p> <p>TGMKE-800M/3300E2 630A 3P #14#18#26</p> <p>TGMGE-800H/3300E2 800A 3P #07#08#09</p> <p>TGMGE-800H/3300E2 630A 3P #10</p> <p>TGMKE-800M/4300CE2 800A 4P #15#16#19</p> <p>TGM1NE-800 with communication module+overload non-tripping accessory #23#24</p> <p>Remark:</p> <p>This test report is based on test report 03601-A-21B0976-S issued on 2021-11-19, all the test results are copied from the test report(except CTI test).</p>
<p>TEST SEQUENCE I</p> <p>Sample No.:#01#02</p> <p>8.3.3 General performance characteristics</p> <p>TEST SEQUENCE II (Ics)</p> <p>Sample No.:#03-#10</p> <p>8.3.4 Rated service short-circuit breaking capacity</p> <p>TEST SEQUENCE III (Icu)</p> <p>Sample No.:#11-#15</p> <p>8.3.5 Rated ultimate short-circuit breaking capacity</p> <p>TEST SEQUENCE III (phase+N test)</p> <p>Sample No.:#16</p> <p>TEST SEQUENCE IV</p> <p>Sample No.:#17#18</p> <p>8.3.6 Rated short-time withstand current</p> <p>TEST SEQUENCE IV (phase+N test)</p> <p>Sample No.:#19</p> <p>Annex C -Individual pole short-circuit test sequence</p> <p>Sample No.:#25#26</p> <p>Annex F - Additional tests for circuit-breakers with electronic over-current protection</p> <p>Sample No.:#20</p> <p>Annex N- Electromagnetic compatibility (EMC)</p> <p>Sample No.:#23#24</p>	
<b>Testing location:</b>	
No.7 Yonghe Street, Binhe Road, New District, Suzhou,China	

**Summary of compliance with National Differences (List of countries addressed):**

N/A

**Statement concerning the uncertainty of the measurement systems used for the tests**

(may be required by the product standard or client)

 **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:****Procedure number, issue date and title:**

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

 **Statement not required by the standard used for type testing**