



Test Report issued under the responsibility of:



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

Report Number : 03601-A-21CB0152-S

Date of issue : 2022-01-07

Total number of pages : 159 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 : IEC 60947-2:2016, AMD1:2019

Test procedure..... : CB Scheme

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

Test Report Form No..... : IEC60947_2J

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

Master TRF : Dated 2020-03-31

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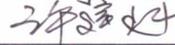
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The test results presented in this report relate only to the object tested.

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| | | |
|---|--|--|
| Test item description | Moulded Case Circuit-Breaker | |
| Trade Mark(s) | Tengen | |
| Manufacturer | Zhejiang Tengen Smart Electrics Co., Ltd. No. 2777 West Zhongshan Road, Xiuzhou District, Jiaxing, Zhejiang Province, P.R.China. | |
| Model/Type reference | TGM1NE-630M,TGM1NE-630H,TGMKE-630M,TGMKE-630H, TGMGE-630M,TGMGE-630H,TGMHE-630M,TGMHE-630H | |
| Ratings | See page 10 | |
| Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): | | |
| <input checked="" type="checkbox"/> | CB Testing Laboratory: | Suzhou Electrical Apparatus Science Research Institute Co., Ltd.(EETI) |
| Testing location/ address | | No.7 Yonghe Street, Binhe Road, New District, Suzhou, China |
| Tested by (name, function, signature) | | Fang Gang(Team leader)  |
| Approved by (name, function, signature) .. | | Xu Jianlin(Supervisor)  |
| <input type="checkbox"/> | Testing procedure: CTF Stage 1: | |
| Testing location/ address | | |
| Tested by (name, function, signature): | | |
| Approved by (name, function, signature) .. | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 2: | |
| Testing location/ address | | |
| Tested by (name + signature)..... | | |
| Witnessed by (name, function, signature) . : | | |
| Approved by (name, function, signature) .. : | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 3: | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 4: | |
| Testing location/ address | | |
| Tested by (name, function, signature): | | |
| Witnessed by (name, function, signature) . : | | |
| Approved by (name, function, signature) .. : | | |
| Supervised by (name, function, signature) : | | |

| | |
|--|--|
| List of Attachments (including a total number of pages in each attachment): | |
| Attachment 1: photos of the product (pages 5,159) | |
| Summary of testing: | |
| <p>In case of alternative test programs for circuit breakers with a different number of poles, the following program is used:</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> | |
| Tests performed (name of test and test clause): | <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-630MP 630A 4P #01</p> <p>TGM1NE-630M 630A 3P #02</p> <p>TGMHE-630M/3300 630A 3P</p> <p>#03#04#05#20#21#22</p> <p>TGMHE-630M/3300 400A 3P #06#26</p> <p>TGMKE-630M/3300 630A 3P</p> <p>#11#12#13#17#27</p> <p>TGMKE-630M/3300 400A 3P #14#18</p> <p>TGMGE-630H/3300 630A 3P #07#08#09</p> <p>TGMGE-630H/3300 400A 3P #10</p> <p>TGMKE-630M/4300 630A 4P#15#16#19#23</p> <p>TGM1NE-630 with communication module+overload non-tripping accessory #24#25</p> <p>TGMHE-630M/3300 400A 3P #26</p> <p>TGMKE-630M/3300 630A 3P #27</p> <p>Remark:</p> <p>This test report is based on test report 03601-A-21B0977-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.:#26#27</p> <p>Annex F - Additional tests for circuit-breakers with electronic over-current protection</p> <p>Sample No.:#20#23</p> <p>Annex N- Electromagnetic compatibility (EMC)</p> <p>Sample No.:#24#25</p> | |
| Testing location: | |
| 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