


Zhejiang Tengen Electric Co., Ltd.

TEST REPORT

Job No. 170600489SHA

TEST REPORT IEC 61558-2-12 Safety of power transformers, power supply units and similar Part 2: Particular requirements for constant voltage transformers	
Report Reference No.	170600489SHA-001
Date of issue	2017-08-11
Total number of pages	65
Testing Laboratory	Intertek Testing Services Shanghai.
Address	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Applicant's name	Zhejiang Tengen Electric Co., Ltd.
Address	Sulv Industrial Area, Liushi Town, Yueqing City, Zhejiang Province, P.R.China
Test specification:	
Standard	EN 61558-1:2005 + A1:2009 EN 61558-2-12: 2011
Test procedure	CE-LVD
Non-standard test method	N/A
Test Report Form No.	IEC61558_12B
Test Report Form(s) Originator	VDE Testing and Certification Institute
Master TRF	Dated 2011-12
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Test item description.....	: Constant voltage power supply
Trade Mark.....	: TENGEN  天正电气
Manufacturer.....	: Zhejiang Tengen Electric Co., Ltd.
Address.....	: Sulv Industrial Area, Liushi Town, Yueqing City, Zhejiang Province, P.R.China
Model/Type reference.....	: TND-0.5kVA, TND-1kVA, TND-1.5kVA, TND-2kVA, TND-3kVA, TND-5kVA, TND-7.5kVA, TND-10kVA, TND-15kVA, TND-20kVA, TND-30kVA
Rating(s).....	: Class I, IP20, ta:40°C Input: 220VAC+15%-30%, 50/60Hz Output: 220VAC±3%, 50/60Hz, 0.5kVA(TND-0.5kVA), 1kVA(TND-1kVA), 1.5kVA(TND-1.5kVA), 2kVA(TND-2kVA), 3kVA(TND-3kVA), 5kVA(TND-5kVA), 7.5kVA(TND- 7.5kVA), 10kVA(TND-10kVA), 15kVA(TND-15kVA), 20kVA(TND-20kVA), 30kVA(TND-30kVA)

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB/CCA Testing Laboratory:	Intertek Testing Services Shanghai.
Testing location/ address.....:	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
<input type="checkbox"/> Associated CB Laboratory:	
Testing location/ address.....:	
Tested by (name + signature)	Gio Li <i>Gio Li</i>
Approved by (+ signature)	Will Wang <i>Will Wang</i>
<input type="checkbox"/> Testing procedure: TMP	
Tested by (name + signature)	
Approved by (+ signature)	
Testing location/ address.....:	
<input type="checkbox"/> Testing procedure: WMT	
Tested by (name + signature)	
Witnessed by (+ signature)	
Approved by (+ signature)	
Testing location/ address.....:	
<input type="checkbox"/> Testing procedure: SMT	
Tested by (name + signature)	
Approved by (+ signature)	
Supervised by (+ signature)	
Testing location/ address.....:	
<input type="checkbox"/> Testing procedure: RMT	
Tested by (name + signature)	
Approved by (+ signature)	
Supervised by (+ signature)	
Testing location/ address.....:	






List of Attachments (including a total number of pages in each attachment):
Appendix 1: Photos of the product: from page 61 to 65.

Summary of testing:																																																	
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Tests performed (name of test and test clause):</th> <th style="text-align: left; padding: 2px;"></th> </tr> </thead> <tbody> <tr><td>Marking test</td><td>8.15</td></tr> <tr><td>Protection against accessibility to hazardous live parts</td><td>9</td></tr> <tr><td>Full-load output voltage test</td><td>11</td></tr> <tr><td>No-load output voltage test</td><td>12</td></tr> <tr><td>Heating test</td><td>14.2</td></tr> <tr><td>Short-circuit & overload protection (Non-inherently short-circuit proof transformer)</td><td>15.3</td></tr> <tr><td>Mechanical strength test - Impact test</td><td>16.2</td></tr> <tr><td>IP test</td><td>17.1</td></tr> <tr><td>Humidity</td><td>17.2</td></tr> <tr><td>Insulation resistance test</td><td>18.2</td></tr> <tr><td>Dielectric strength test</td><td>18.3</td></tr> <tr><td>Double supply voltage and frequency test</td><td>18.4</td></tr> <tr><td>Touch current and protective earth conductor current</td><td>18.5</td></tr> <tr><td>Thermal cut-outs breaking capacity</td><td>20.7.2</td></tr> <tr><td>Overload protection devices test</td><td>20.11</td></tr> <tr><td>Cord anchorage test</td><td>22.9.5</td></tr> <tr><td>Fastening and loosening test for terminal</td><td>23.4</td></tr> <tr><td>Torque test for screws</td><td>25.6</td></tr> <tr><td>Creepage distances, clearances and distances through insulation measurement</td><td>26.1</td></tr> <tr><td>Ball pressure test</td><td>27.1</td></tr> <tr><td>Glow wire test</td><td>27.3</td></tr> <tr><td>Electronic circuits fault test</td><td>H.2.3</td></tr> </tbody> </table>	Tests performed (name of test and test clause):		Marking test	8.15	Protection against accessibility to hazardous live parts	9	Full-load output voltage test	11	No-load output voltage test	12	Heating test	14.2	Short-circuit & overload protection (Non-inherently short-circuit proof transformer)	15.3	Mechanical strength test - Impact test	16.2	IP test	17.1	Humidity	17.2	Insulation resistance test	18.2	Dielectric strength test	18.3	Double supply voltage and frequency test	18.4	Touch current and protective earth conductor current	18.5	Thermal cut-outs breaking capacity	20.7.2	Overload protection devices test	20.11	Cord anchorage test	22.9.5	Fastening and loosening test for terminal	23.4	Torque test for screws	25.6	Creepage distances, clearances and distances through insulation measurement	26.1	Ball pressure test	27.1	Glow wire test	27.3	Electronic circuits fault test	H.2.3	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Testing location:</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China</td> </tr> </tbody> </table>	Testing location:	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
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<p>Summary of compliance with National Differences</p> <p>List of countries addressed:</p> <p>None</p> <p><input type="checkbox"/> The product fulfils the requirements of _____</p>																																																	

Copy of marking plate

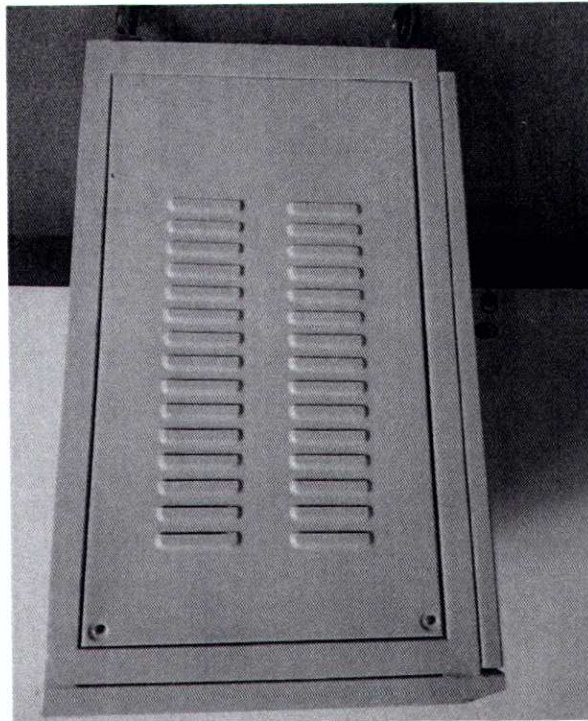
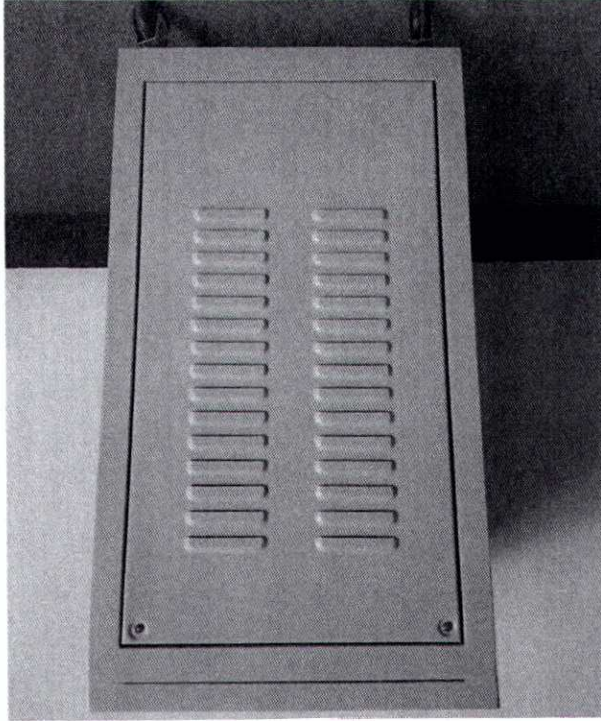
Constant voltage power supply **TENGEN** 天正电气

Model: TND-30kVA IP20 ta:40°C
Input: 220VAC+15%-30%, 50/60Hz cos φ: 0.8
Output: 220VAC±3%, 50/60Hz, 30kVA

     105°C

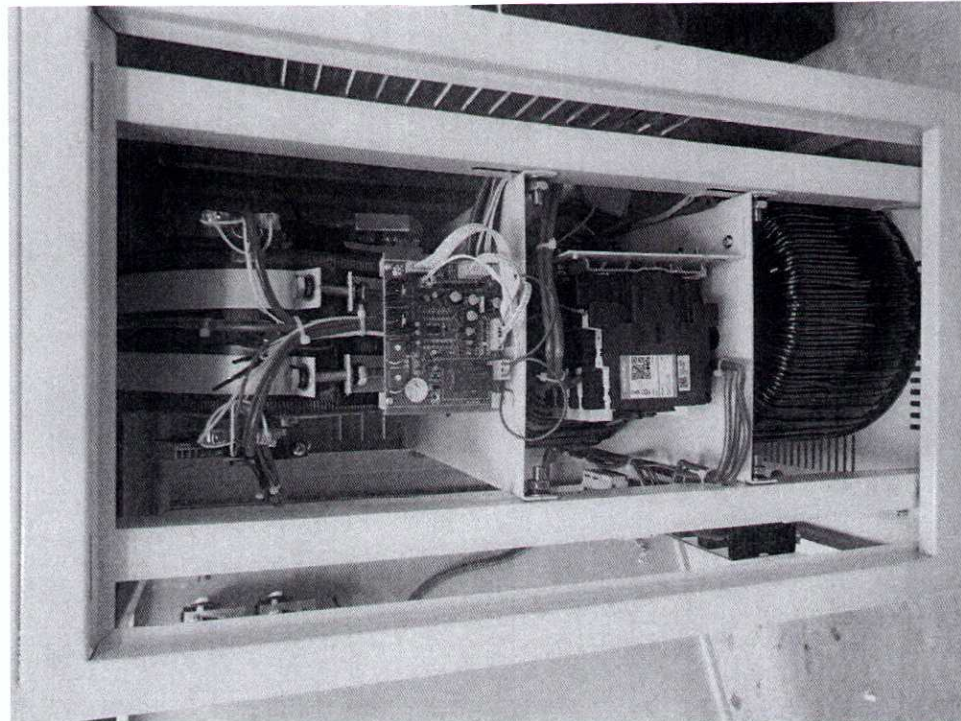
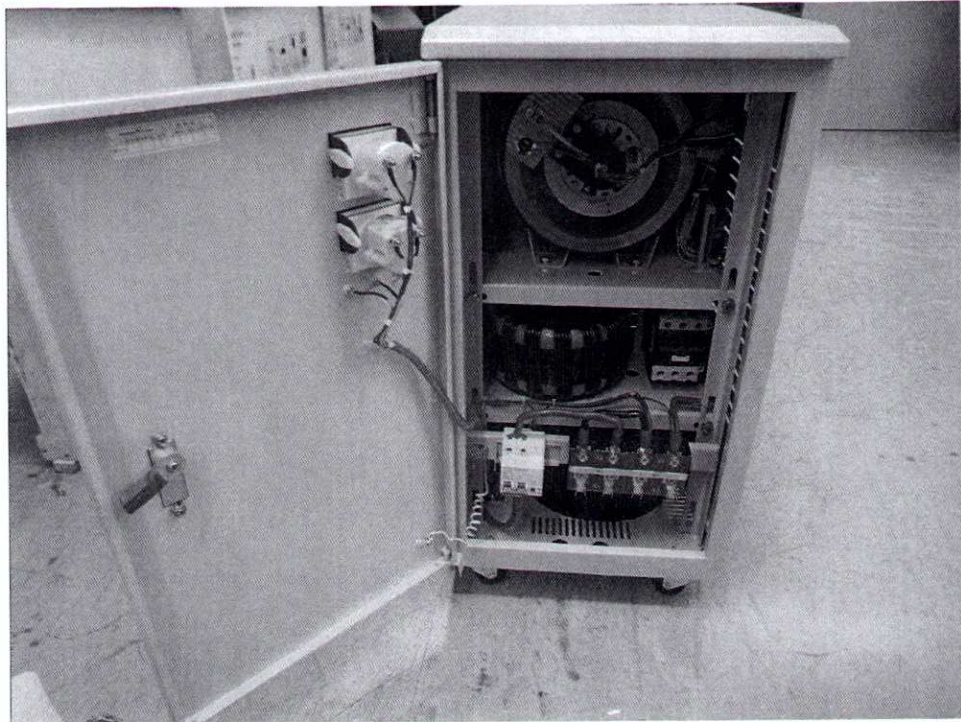
Zhejiang Tengen Electric Co., Ltd.

Note: Other models have similar markings except model name and ratings.

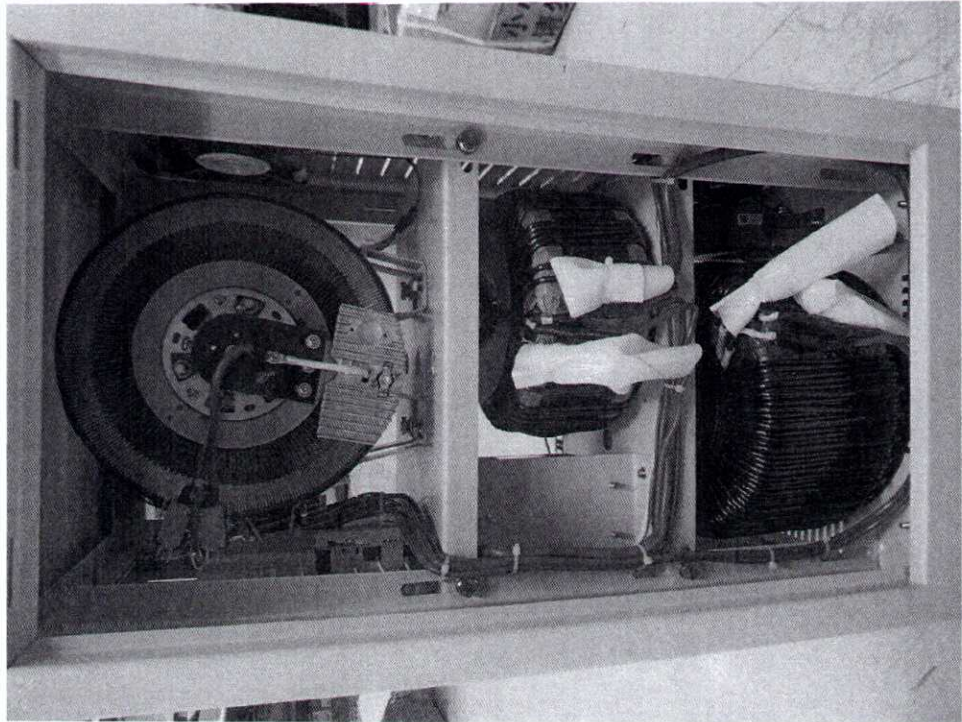
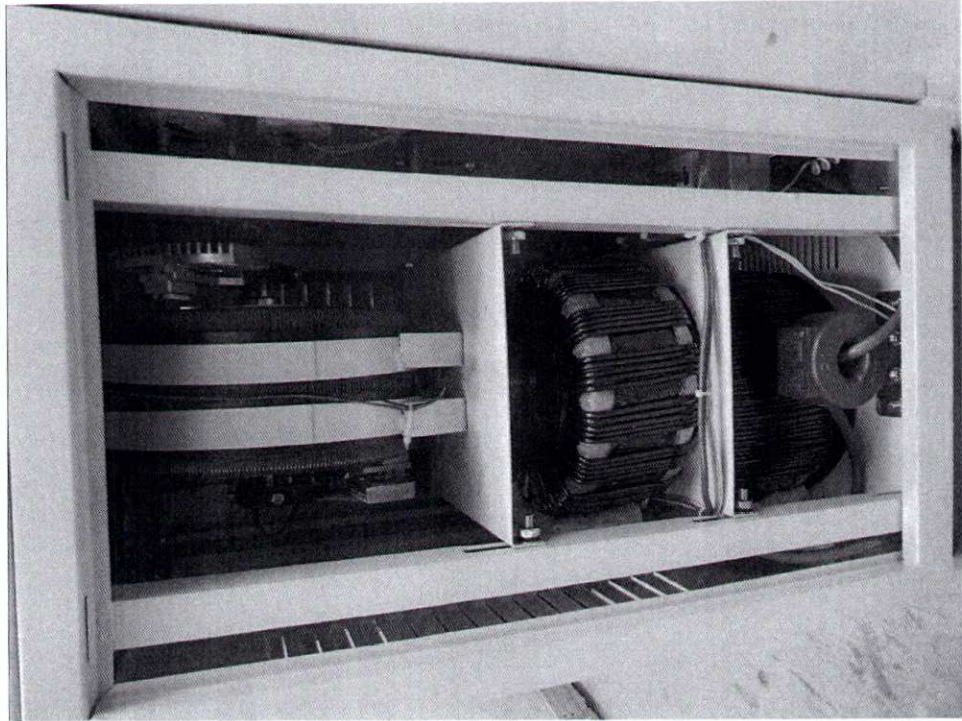


Overall view

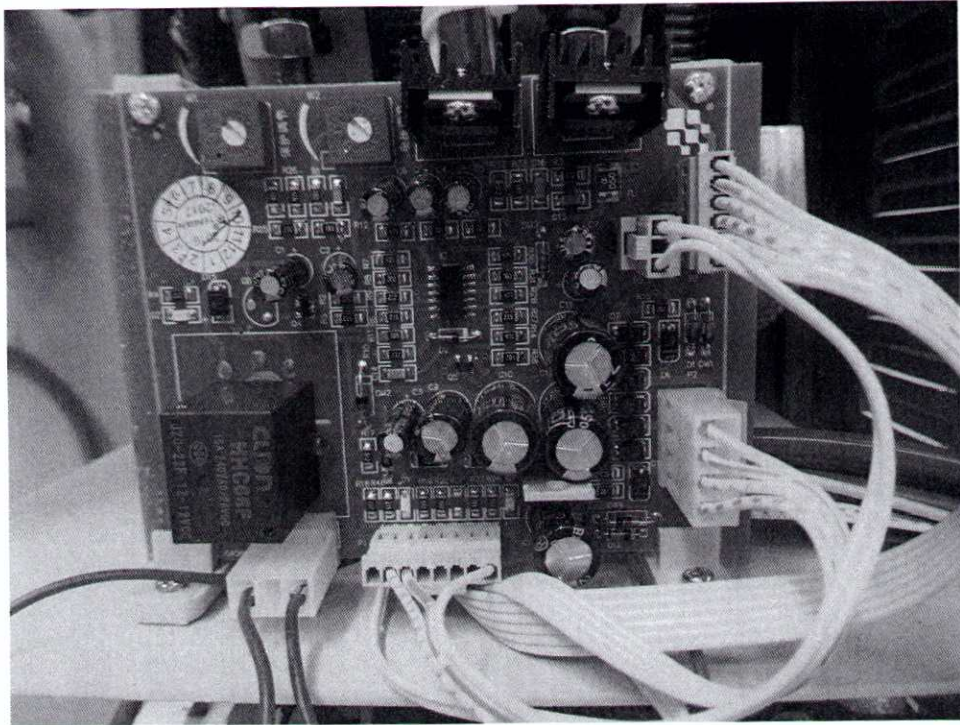
Internal view



Internal view



PCB



Fans

