TEST REPORT

IEC 61558-2-7

Safety of transformers, reactors, power supply units and combinations thereof - Part 2-7: Particular requirements and tests for transformers and power supply units for toys

IEC 61558-1

Safety of transformers, reactors, power supply units and combinations thereof - Part 1:General requirements and tests

Report Number.....:	RHDTL260409516
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Applicant's name.....:	changshashiyingweikejiyouxiangongsi
Address.....:	No. 1223-2116, Building 1, Plot 5, AUX Colorful Plaza, No. 858 Dujuan Road, Wangyue Subdistrict, Yuelu District, Changsha City, Hunan Province,China 410205
Manufacturer's name.....:	shenzhenshilangweishundianzikeji Co.,LTD
Address.....:	Building C, No. 4, Shangxue Technology Industrial City 1st Road, Xinxue Community, Bantian Street, Longgang District, Shenzhen City
Test specification:	
Standard.....:	IEC 61558-1:2017 IEC 61558-2-7:2023
Test procedure.....:	LVD report
Non-standard test method.....:	N/A

Test item description.....:	AC/DC ADAPTER
Trade Mark.....:	N/A
Model/Type reference.....:	YTY-12F-01 05100EU
Ratings.....:	Input: 220-240V ~ 50/60Hz 0.3AMax Output: 5VDC 2A 10W

General disclaimer:

This report is only for applicant use. Any copying this report to/for any other person or entity, and use our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

List of Attachments:

- Measurement Section
- Attachment No.1:Photo document (4 pages)

Total number of pages in each attachment is indicated in each individual attachment.

Summary of testing:

The tested samples fulfilled the requirements of specified standards.

Testing location:

Dongguan HDTL Technology Co., Ltd.

Room 101, Building 1, No. 5 of Jinzhong Road, Dongcheng Street, Dongguan City, Guangdong Province, China.

Summary of compliance with National Differences:

List of countries addressed:

☒ The product fulfils the requirements of **IEC 61558-1:2017 and IEC 61558-2-7:2023**

Remark:

/

Copy of marking plate:

The artwork below may be only a draft.

AC/DC ADAPTER
Model: YTY-12F-01 05100EU
Input: 220-240V～ 50/60Hz 0.3AMax
Output: 5VDC 2A 10W

shenzhenshilangweishundianzikeji Co.,LTD
Made in China
Importer: xxx

Note:
1. xxx means importer company name; yyy means importer company address information.
2.The marking for the other models are identical as above except the model no. only.
3.As declared by client that the name (or registered trade mark) and address of the certificate holder (manufacturer) or the importer or authorized representative based within the European Economic Area will be clearly affixed on the product or where that is not possible, on the packaging or in a document accompanying the product.
4.The height of letters and numerals was not less than 2mm.
5.The height of symbol “  ” was not less than 7mm.
6.The height of the other graphical symbols was not less than 5mm.

Test item particulars:	
Equipment mobility .....:	☐ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in
Connection to the mains.....:	☒ direct plug-in ☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☐ detachable Transformer cord ☐ non-detachable Transformer cord ☐ not directly connected to the mains ☐ Other: Wiring terminals
Operating condition.....:	☒ continuous ☐ rated operating / resting time: 90 sec ON / 30 min OFF
Access location.....:	☒ operator accessible ☐ restricted access location
Over voltage category (OVC).....:	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values.....:	N/A
Tested for IT power systems .....:	☐ Yes ☒ No
IT testing,phase-phase voltage (V).....:	N/A
Class of equipment .....:	☐ Class I ☒ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A).....:	N/A
Pollution degree (PD).....:	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class .....:	IPX0
Altitude during operation (m).....:	Up to 2000
Altitude of test laboratory (m).....:	Below 2000
Mass of equipment (kg).....:	/

Testing	
Date of receipt of test item .....:	Apr. 09, 2026
Date(s) of performance of test .....:	Apr. 09, 2026 to Apr. 17, 2026
Test case verdicts	
Test case does not apply to the test object.:	N/A
Test item does meet the requirement .....:	P (Pass)
Test item does not meet the requirement ...:	F (Fail)
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report.	
"(See appended table)" refers to a table appended to the report.	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Name and address of factory (ies).....:	Same as manufacture
General product information:	
1. The appliance/equipment is “AC/DC ADAPTER” with model “YTY-12F-01 05100EU”, as class II appliance. 2. The bottom enclosure is secured to top enclosure by snap. 3. The EUT Tma is 25°C declared by manufacturer. 4. The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual. 5. Indicates that the device is usable up to an altitude of 2,000 meters	

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
8	**MARKING AND OTHER INFORMATION**		**P**
8.1	Transformer marked with:		P
	a) rated supply voltage or voltage range (V). .:	220-240VAC	P
	b) rated output voltage (V) .....:	5VDC	P
	c) rated output (VA, kVA or W) .....:	10W	P
	d) rated output current (A) .....:	2A	N/A
	e) rated frequency (Hz) .....:	50/60Hz	P
	f) rated power factor (if not 1) .....:		N/A
	g) symbol AC for alternating current, or DC for direct current-output		P
	h) relevant graphical symbols shown in Table 101 that indicate the kind of transformer.（IEC 61558-2-7）		N/A
	i) manufacturer's name or trademark or name of the responsible vendor	shenzhenshilangweishundianzikeji Co.,LTD	P
	j) model or type reference	YTY-12F-01 05100EU	P
	k) vector group according to IEC 60076 for three-phase transformer		N/A
	l) symbol for Class II		P
	m) transformers suitable for outdoor use shall be marked with the appropriate degree of protection (IP code);（IEC 61558-2-7）		N/A
	n) index IPXX if other than IP00		N/A
	o) rated max. ambient temperature ta (if not 25 °C)	25 °C	P
	p) rated minimum ambient temperature ta min, if <10° C and if a temperature sensitive device is used		N/A
	q) symbol for overvoltage category,if other than		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	OvC II;		
	r) transformers to be used with forced air cooling where the fan is not a part of the transformer shall be marked with"AF"followed by the air speed,expressed in m/s;		N/A
	t) symbol indicating the maximum altitude of installation,if less than 2000 m.		P
8.2	Marking for transformers IP00 or for associated transformers: type and trademark, instruction sheets		P
8.3	Adjusted voltage easily and clearly discernible		N/A
8.4	For each tapping or winding: rated output voltage and rated output		N/A
	necessary connections clearly indicated		N/A
8.5	For short-circuit proof transformers or non-inherently short-circuit proof transformers:		N/A
	Rated current (A or mA) and symbol for time current characteristics of the fuses for non-inherently short-circuit proof transformer with incorporated fuses and non-short-circuit proof transformer .....:		N/A
	Manufacturer's model or type reference and rating of the device for non-inherently short-circuit proof transformers with incorporated replaceable protective device (other than fuses)		N/A
	Construction sheet for transformers with replaceable protective device (other than fuses) information with information about the replacement.		N/A
8.6	Terminals for neutral: "N"		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Terminal for protective earth marked with earthing symbol		N/A
	Identification of input terminals: "PRI"		N/A
	Identification of output terminals: "SEC"		N/A
	Symbol for any point/terminal in connection with frame or core		N/A
8.7	Indication for correct connection		N/A
8.8	Instruction sheet for type X, Y, Z attachments		N/A
8.9	Transformer for indoor use shall be marked with the relevant symbol.		P
8.10	Symbol for Class II construction not confused with maker's name or trademark.		P
	Class II transformer with parts to be mounted – delivered with all parts for class II after mounting.		P
	Symbol for class II transformer placed on the part which provides class II.		N/A
8.11	Correct symbols:	See below	P
	Volts	AC	P
	Volt amperes (or volt-amperes reactive for reactors)		P
	Watts		N/A
	Hertz	50/60Hz	P
	Input	220-240 AC	P
	Output	5VDC	P
	Direct current	2A	N/A
	Neutral		N/A
	Single-phase a.c.	~	P
	Three-phase a.c.		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Three-phase and neutral a.c.		N/A
	Power factor		N/A
	Class II construction		P
	Class III construction		N/A
	Fuse-link		P
	Rated max. ambient temperature		N/A
	Frame or core terminal		N/A
	Protective earth		N/A
	IP number		N/A
	Earth (ground for functional earth)		N/A
	For indoor use only		P
	The symbol for linear power supply units shall be used in conjunction with the symbol indicating the kind of transformer.（IEC 61558-2-7）	 Compliant with GB/T 61558 standard: short-circuit resistant isolation transformer	P
8.12	Figures, letters or other visual means for different positions of regulating devices and switches		N/A
	OFF position indicated by figure 0		N/A
	Greater output, input etc. indicated by higher figure		N/A
8.13	Marking not on screws or other easily removable parts		P
	Marking clearly discernible (transformer ready for use)		P
	Marking for terminals clearly discernible if necessary after removal of the cover		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Marking for terminals: no confusion between input and output		P
	Marking for interchangeable protective devices positioned adjacent to the base		N/A
	Marking for interchangeable protective devices clearly discernible after removal of cover and protective device		N/A
8.14	Special information for installation (in the catalogue,data sheet, or instruction sheet) if necessary:		P
8.15	Marking durable and easily legible	The marking plate was rubbed with cloth soaked with water for 15 s and then again for 15s with the cloth soaked with petroleum spirit. After this test there was no damage to the marking plate. The marking on the label did not fade. There was no curling of the marking plate	P
8.101	The instructions for use shall include the following statement or equivalent:（IEC 61558-2-7）		P
	Instructions to parents: "Transformers and power supply units for toys are not intended to be used astoys, and the use of these products by children shall be under the full supervision of parents.（IEC 61558-2-7）		P
8.102	The instructions for use of transformers using power supply cords with the degree of protection IP65shall include the following statement or		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	equivalent:（IEC 61558-2-7）		
	Instructions to parents: "This transformer or power supply unit for toys is not intended for permanent outdoor usage and for instance rain conditions shall be avoided."（IEC 61558-2-7）		P
9	**PROTECTION AGAINST ELECTRIC SHOCK**		**P**
9.1	Protection against contact with hazardous live parts		P
9.1.1	A live part is not a hazardous live part if:		P
	–it is separated from the supply by double or reinforced insulation		P
	–the requirements of 9.1.1.1 and 9.1.1.2 are ful-filled		P
9.1.1.1	The touch voltage is <35 V(peak) a.c. or < 60 Vd.c.		P
9.1.1.2	If the touch voltage is > 35 V (peak)a.c. or > 60 V d.c., the following requirements shall be fulfilled:		N/A
	The touch current shall not exceed:		N/A
	–for a.c. 0,7 mA (peak)		N/A
	–for d.c. 2,0 mA (see Annex J)		N/A
	In addition, when a capacitor is connected to live parts:		—
9.1.1.2.1	discharge: < 45 uC (between 60 V and 15 kV)		N/A
9.1.1.2.2	energy: < 350 mJ (voltage >15 kV)		N/A
9.1.2	Transformers shall have an adequate protection against accessibility to hazardous live parts:		P
	The enclosure of class I and class II transformers gives an adequate protection against accentual contact with hazardous live parts.		P
	Class I transformers: accessible parts are separated from hazardous live parts by at least		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	basic insulation.		
	Class II transformers: no accessibility to basicinsulation, or conductive parts separated from hazardous live parts by basic insulation.		P
	Hazardous live parts are not accessible after removal of detachable parts.		P
	Hazardous live parts are not accessible after removal of detachable parts except for:		P
	–lamps having caps larger B9 and E10		N/A
	–type D fuse holder		N/A
	Lacquers, enamel, paper, cotton, oxide film on metal parts not used for protection against accidental contact with hazardous live parts:		N/A
	Shafts, handles, operating levers, knops are not hazardous life parts.		N/A
	Compliance is checked by inspection and by relevant tests according to IEC 60529		N/A
	Class II transformers and Class II parts of Class I construction are tested with the test pin (fig. 3)		P
	Hazardous live parts shall not be touchable by test finger (fig. 2)		P
	for Class II transformers: metal parts separated by basic insulation from hazardous live parts not touchable by test finger		P
	hazardous live parts shall not be touchable with the test pin		P
9.1.3	Accessibility of non hazardous live parts		P
	Non hazardous live parts of the output circuit may be accessible if they are isolated from the input circuit by double or reinforced insulation and if the following conditions are fulfilled:		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–The no load output voltage is < 35 V peak a.c. or < 60 V ripple free d.c., both poles are accessible		P
	–The no load output voltage is > 35 V peak a.c. or > 60 V ripple free d.c. and < 250 V a.c., only one pole may be accessible		N/A
9.2	Transformers with primary supply plug: 1 s after the interruption of the supply the voltage between the pins do not exceed 35 V (peak) a.c. or 60 V ripple free d.c.		P
	Transformers without a primary supply plug: 5 s after the interruption of the supply the voltage between the input terminals do not exceed 35 V (peak) a.c. or 60 V ripple free d.c.		N/A
	The following tests are required :		P
	If the nominal capacitance is < 0,1 µF – no test is conducted.		P
	–10 times switch the supply source on and off, or use a special equipment for to switch off at the most unfavourable electrical angle		N/A
	If the measured voltage is > 60 V ripple free d.c., the discharge must be < 45 µC.		N/A
9.2.2	The standard test finger of Figure 4 is replaced by the small test finger of Figure 101.（IEC 61558-2-7）		P
	It shall not be possible to gain access to live parts of the input circuit or to the metal parts separated from live parts by basic insulation only, even after removal of the covers that can be removed with The aid Of a tool.（IEC 61558-2-7）		P
10	**CHANGE OF INPUT VOLTAGE SETTING**		**P**
	Transformers shall have only one rated supply voltage or one rated supply voltage range.		P

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Compliance is checked by inspection.（IEC 61558-2-7）		
11	**OUTPUT VOLTAGE AND OUTPUT CURRENT UNDER LOAD**		**P**
11.1	When the transformer is connected to the rated supply voltage, at the rated supply frequency and loaded with an impedance resulting in the rated output at the rated output voltage, for an AC rated power factor, the output voltage shall not differ from the rated value by morethan 10 % for AC or 15 % for DC.（IEC 61558-2-7）		P
	This requirement is applicable to all the output windings and their tappings.（IEC 61558-2-7）		P
12	**NO-LOAD OUTPUT VOLTAGE (see supplementary requirements in Part 2)**		P
	Remark: with rectifier measuring on both sides of the rectifier		P
12.101	No-load output voltage ≤ 33 V a.c. or ≤ 46 V ripple-free d.c. (EN 61558-2-7:97)		P
12.102	Difference between output voltage at no load and at rated output ≤ 100% (EN 61558-2-7:97)		P
13	**SHORT-CIRCUIT VOLTAGE**		**N/A**
14	**HEATING**		**P**
14.1	General requirements	(see appended table)	P
	No excessive temperature in normal use		P
	Room temperature: rated ambient temperature ta+5 °C		—
	Type X, Y, Z attachments: 1 pull (5 N) to the con-nection windings		N/A
	Upri (V): 1,1 times rated supply voltage loaded with rated impedance – for independent transformers		—
	Upri (V): 1,1 times rated supply voltage: with I		—

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	sec(A), measured with rated impedance and 1,0 times of the rated supply voltage for others than inde-pendent transformers		
	Type X, Y, Z attachments: 1 pull (5 N) to the con-nection windings		N/A
	Max. temperature windings.....:	(see appended table)	P
	- Class A: 100 °C		N/A
	- Class E: 115 °C		N/A
	- Class B: 120 °C		P
	- Class F: 140 °C		N/A
	- Class H: 165 °C		N/A
	-other classes		N/A
	– metal: 50°C (EN IEC 61558-2-7)		N/A
	– other material: 60°C (EN IEC 61558-2-7)		P
	Temperature of external enclosure of stationary transformer 85°C (not touchable with the small test finger) (EN IEC 61558-2-7)		N/A
	Temperature of external enclosures, handles, etc. of portable transformers:		N/A
	continuously held parts of metal: 50 °C ((EN IEC 61558-2-7)		N/A
	continuously held parts of other material: 60°C ((EN IEC 61558-2-7)		N/A
	not continuously held parts of metal: 50°C ((EN IEC 61558-2-7)		N/A
	not continuously held parts of other material: 60°C ((EN IEC 61558-2-7)		P
	metal: 50°C ((EN IEC 61558-2-7)		N/A
	Temperature of terminals for external conductors 70°C		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Temperature of terminals of switches 70°C		N/A
	Temperature of internal and external wiring:		N/A
	–rubber: 65 °C		N/A
	–PVC: 70°C		N/A
	Temperature of parts where safety can be affected:		N/A
	–rubber: 65 °C		N/A
	–PVC: 70°C		N/A
	Temperature of parts where safety can be affected:		N/A
	–rubber: 75°C		N/A
	–phenol-formaldehyde: 105°C		N/A
	–urea-formaldehyde: 85°C		N/A
	–impregnated paper and fabric: 85°C		N/A
	–impregnated wood: 85°C		N/A
	–PVC, polystyrene and similar thermoplastic material: 65°C		N/A
	–varnished cambric: 75°C		N/A
	Temperature rise of supports 85 °C		N/A
	Temperature of printed boards:		P
	–bonded with phenol-formaldehyde: 105°C		P
	–melamine-formaldehyde: 105°C		N/A
	–phenol-furfural: 105°C		N/A
	–polyester: 105°C		N/A
	–bonded with epoxy: 140°C		N/A
	Electric strength between input and output windings(18.3, 1 min); test voltage (V) .....:		P
14.2	Application of 14.1 or 14.3 according to the insulation system		P

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
14.2.1	Class of isolating system (classified materials according to IEC 60 085 and IEC 60 216)		P
14.2.2	No classified material, or system but the measured temperature does not exceed the value of Class A		N/A
14.2.3	No classified material or system but the measured temperature exceeds the value for Class A, the live parts of the transformers are submitted to the test of 14.3		N/A
14.3	Accelerated ageing test for undeclared class of iso-lating system		N/A
	Cycling test (10 cycles):		N/A
	–measuring of the no-load input current (mA)		N/A
14.3.1	–heat run (temperature in table 2)		N/A
14.3.2	–vibration test: 30 min; amplitude 0,35 mm; fre- quency range: 10 Hz, 55 Hz, 10 Hz		N/A
14.3.3	–moisture treatment (48 h, 17.2)		N/A
14.3.4	Measurements and tests at the beginning and after each test:		N/A
	–deviation of the no-load input current, meas-ured at the beginning of the test is 30%		N/A
	–insulation resistance acc. cl.18.1 and 18.2		N/A
	–electric strength, no breakdown (18.3); 2 min; test voltage 35% of specified value (table VI)		N/A
	–Transformers (50 or 60 Hz version) are tested after the dielectric strength test as follows: under no load; duration: 5 min;Upri(V):1,2 times rated supply voltage; fre-quency (Hz): 2 times rated frequency		N/A
15	**SHORT-CIRCUIT AND OVERLOAD PROTECTION**		**P**

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
15.1	General		P
	Tests direct after 14.1 at the same ta and without changing position.	(see appended table)	P
	Supply voltage between 0,9 times and 1,1 times of the rated supply voltage		—
	Transformer with rectifier tests of 15.2 and 15.3 at the input and the output terminals of the rectifier.		N/A
	Transformers with more than one output winding or tapping, all windings tested with normal load, the winding with the highest temperature is short circuited.		N/A
	Wining protected inherently (15.2)		N/A
	–Max. temperature of winding protected inherently (insulation class): 150 ℃ (A); 165 ℃(E); 175 ℃ (B); 190 ℃ (F); 210 ℃ (H)		P
	Winding protected by protective device:		N/A
	–Test according 15.3.2 - 15.3.3 – 15.3.4: max. temperature of winding during the time required or the time T given in table 4 (a) (insulation class): 200 ℃ (A); 215 ℃ ;(E); 225 ℃ (B); 240 ℃(F); 260 ℃(H)		N/A
	–Test according 15.3.1: max. temperature of Protected, no high tempera-winding during the first hour, peak value (insulating layer class): 200 ℃ (A); 215 ℃ (E); 225 ℃(B); 240 ℃ (F); 260 ℃ (H)		N/A
	–Test according 15.3.1: max. temperature of winding after first hour, peak value (insulation ℃lass): 175 ℃ (A); 190 ℃ (E); 200 ℃ (B); 215 ℃ (F); 235 ℃ (H)		N/A
	–Test according 15.3.1: max. temperature of winding after first hour, arithmetic mean value		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	(insulation ℃lass): 150 ℃ (A); 165 ℃ (E); 175 ℃ (B); 190 ℃ (F); 210 ℃ (H)		
	Max. temperature of external enclosures (which can be touched with the standard test finger) metal 58℃ Other than metal 71℃(EN IEC 61558-2-7)		P
	Max. temperature of insulation of wiring (rubber and PVC) 85°C		N/A
	Temperature rise of supports 105°C		P
15.2	For inherently short-circuit proof transformers and for transformers with rectifiers test by short circuit of the output winding at rated supply voltage x 1,1:temperature rises values in table 3		N/A
15.3	For non-inherently short-circuit proof transformers and for transformers with rectifiers: temperature rises values in table 3		N/A
15.3.1	Output terminals short-circuited: protection device operates, test at 0,9 … 1,1 of the rated supply voltage		N/A
15.3.2	Not applicable (EN IEC 61558-2-7)		N/A
15.3.3	Not applicable (EN IEC 61558-2-7)		N/A
15.3.4	If protected by a circuit-breaker according to IEC 60 898 the transformer is loaded with a current equal to 1,45 times the value of the circuit-breaker rated current		N/A
15.3.5	If other overload protection than a fuse (IEC 60127) or a circuit-breaker (IEC 60898) test with 0,95 times of operating current		N/A
	If an internal week point is used, the test must be repeated with two new samples. The two additional samples works similar to the first sample. Temperatures in the limit of table 3		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	the transformer is loaded by a current equal to 0,95 times the value of the lowest current which causes the protective device to operate, until steady-state conditions are reached.		N/A
15.3.101	If the output current is > 20A the non-self-resetting overload releases operate within 1s(EN IEC 61558-2-7)		N/A
15.4	For non-short-circuit proof transformers: temperature rises values in table 3, tests as indicated in 15.3		N/A
15.5	For fail-safe transformers:		N/A
15.5.1	Three additional new specimens are used		—
	–Upri (V): 1,1 times rated supply voltage .....:		—
	–Isec (A): 1,5 times rated output current .....:		—
	–time until steady-state conditions t1 (h) .....:		—
	–time until failure t2 (h): t1; 5h .....:		N/A
15.5.2	During the test:		N/A
	–no flames, molten material, etc.		N/A
	–58 ℃ if made of metal		N/A
	–71℃if made of other material.		N/A
	After the test:		N/A
	–electric strength (Cl. 18, 1 min, test voltage: 35% of specified value); enclosures, if any,shall have no holes allowing the standard test finger (Figure 4)totouch hazardous-live-parts. In case of doubt,contact with hazardous-live-parts is detected by means of an electrical contact indicator, the voltage being not less than 40 V.		N/A
	–bare hazardous live parts not accessible by test finger through holes of enclosure		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
16	**MECHANICAL STRENGTH**		**P**
16.1	Test of 16.2 for stationary transformers (EN IEC 61558-2-7)		N/A
	Test of 16.2, 16.3, 16.4 and 16.101 for portable transformers (EN IEC 61558-2-7)		N/A
	After tests of 16.2 and 16.3 and 16.4:		N/A
	no damage		N/A
	hazardous live parts not accessible by test pin according to 9.2		N/A
	no damage for insulating barriers		N/A
	handles, levers, etc. have not moved on shafts		N/A
16.2	For stationary and portable transformers: 3 blows, impact energy 0,5 Nm		N/A
16.3	Portable transformers (except of plug in transformers)		N/A
	For portable transformers: 100 falls, 25 mm		N/A
16.4	Transformers with integrated pins (plug in transformers), the following tests are carried out:		P
	a) plug-in transformers: tumbling barrel test: 1000 if the mass of the specimen does not exceed 100g. 500 if the mass of the specimen exceeds 100g but does not exceed 200g. 100 if the mass of the specimen exceeds 200g		P
	b) torque test of the plug pins with 0,4 Nm		P
	c) pull force according to table 5 for each pin		P
16.101	Test with the steel bar according to fig. 102 (8 blows) (EN IEC 61558-2-7):		P
	no damage (EN IEC 61558-2-7)		P
	live parts not accessible (EN IEC 61558-2-7)		P

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Fall test from a height of 40 cm to a steel plate (10 falls) (EN IEC 61558-2-7):		P
	no damage (EN IEC 61558-2-7)		P
	live parts not accessible (EN IEC 61558-2-7)		P
17	**PROTECTION AGAINST HARMFUL INGRESS OF WATER AND MOISTURE**		**N/A**
	Degree of protection (IP code marked on the trans- IP00 former)		N/A
	Test according to 17.1.1 and for other IP ratings test according to IEC 60 529:		N/A
	–stable operating temperature before starting the test for < IPX8		N/A
	–transformer mounted and wired as in normal use		N/A
	–fixed transformer mounted as in normal use by the tests according to 17.1.1 A to L		N/A
	–portable transformers placed in the most unfa-vourable position and wired as in normal use		N/A
	–glands tightened with a torque equal to two-thirds of 25.6		N/A
	After the tests:		N/A
	–dielectric strength test according to 18.3		N/A
	Inspection:		N/A
	a) in dust-proof transformers no deposit of talcum powder		N/A
	b) no deposit of talcum powder inside dust-tight transformers		N/A
	c) no trace of water on live parts except SELV parts below 15 V ac or 25 V dc or insulation if hazard for the user or surroundings no reduc-tion of creepage distances		N/A
	d) no accumulation of water in transformers IPX1 so as to impair safety		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	e) no trace of water entered in any part of water-tight transformer		N/A
	f) no entry into the transformer by the relevant test probe		N/A
17.1.1	Tests on transformers with enclosure:		N/A
	A) Solid-object-proof transformers:		N/A
	–2 IP2X test finger (IEC61558) and test pin (fig. 3)		N/A
	B) Solid-object-proof transformers:		N/A
	–wire 2,5 mm; force 3 N		N/A
	–IP4X, wire 1 mm; force 1 N		N/A
	C) Dust-proof transformers, IP5X; dust chamber according to IEC 60 529, fig. 2:		N/A
	a) transformer has operating temperature		N/A
	b) transformer, still operating, is placed in the dust chamber		N/A
	c) the door of the dust chamber is closed		N/A
	d) fan/blower is switched on		N/A
	e) after 1 min transformer is switched off for cooling time of 3 h		N/A
	A) Dust-tight transformers (IP6X) test according to C)		N/A
	B) Drip-proof transformers (IPX1) test according to fig. 3 of IEC 60 529 for 10 min		N/A
	C) Rain-proof transformers (IPX2) test according to fig. 3 of IEC 60 529 for 10 min in operation, any angle up to 15°		N/A
	D) Spray proofed transformers (IPX3) test according to fig. 4 of IEC 60 529 for 10 min in operation and 10 min switched off , time for complete oscillation (2 x 120°) is 4 sec.		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	E) Splash-proof transformers (IPX4) test according to fig. 4 of IEC 60 529 (see F) for 10 min in operation and 10 min switched off (the tube shall oscillate 360)		N/A
	F) Jet-proof transformer (IPX5) test according to fig. 6 of IEC 60 529 (nozzle 6,3mm)		N/A
	G) Powerful Jet-proof transformer (IPX6) test according to fig. 6 of IEC 60 529 (nozzle 12 mm)		N/A
	H) Watertight transformers (IPX7)		N/A
	I) Pressure watertight transformers (IPX8)		N/A
	After moisture test (48 h for IP20, 168 h for other transformers):	25℃,48h,95%R.H	N/A
	–insulation resistance and electric strength (Cl. 18)		N/A
18	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**P**
18.2	Insulation resistance between:		P
	–live parts and body for basic insulation 2 MΩ		P
	–live parts and body for reinforced insulation 7 MΩ		P
	–input circuits and output circuits for basic insulation 2 MΩ		N/A
	–input circuits and output circuits for double or reinforced insulation 5 MΩ		P
	–each input circuit and all other input circuits connected together 2 MΩ		N/A
	–each output circuit and all other output circuits connected together 2 MΩ		N/A
	–hazardous live parts and metal parts with basic insulation (Class II transformers) 2 MΩ		N/A
	–body and metal parts with basic insulation (Class II transformers) 5 MΩ		N/A
	–metal foil in contact with inner and outer		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	surfaces of enclosures 2 MΩ		
18.3	Electric strength test (1 min): no flashover or break down:		P
	1) basic insulation between input circuits and output circuits; working voltage (V); test voltage (V):		P
	2) double or reinforced insulation between input circuits and output circuits; working voltage (V); test voltage (V) .....:		P
	3) basic or supplementary insulation between:		N/A
	a) live parts of different polarity; working voltage (V); test voltage (V) .....:		P
	b) live parts and the body if intended to be connected to protective earth .....:		N/A
	c) inlet bushings and cord guards and anchorages .....:		N/A
	d) live parts and an intermediate conductive part .....:		N/A
	e) intermediate conductive parts and body ..... :		N/A
	1) Reinforced insulation between the body and live parts; working voltage (V); test voltage (V):		P
18.4	Does not apply		N/A
18.5	Touch current and protective earth current		P
18.5.1	Touch current		P
	Touch current measured after the clause 14 test (hot) for class I and class II transformers (class II transformers with metal foil at the plastic surface).The test circuit according figure 8. Measuring network according Figure J1 (Annex J). If the frequency is >30kHz, measuring across the 500 Ohm resistor of J1 (burn effects).		P
	Measurement of the touch current with switch p of picture 8 in both positions and in combination		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	with switches e and n.The measured values are less than the required values of table 8b.		
	–switches n and e in on position		N/A
	–switch n: off and switch e: on		N/A
	–switch n: on and switch e: off		N/A
18.5.2	Protective earth conductor current		N/A
	The transformer is connected as in clause 14 Impedance of the ammeter < 0,5 Ohm, connected between earth terminal of the transformer and protective earth conductor		N/A
	The measured values are less than the required values of table 8b.		N/A
18.101	The touch current shall in no operating condition exceed the values of Table 15.(EN IEC 61558-2-7)	<0.5mA	P
	NOTE Certain transformer types can have high initial touch current when first switched on, which does not decrease rapidly in a low-load condition.(EN IEC 61558-2-7)		N/A
19	**CONSTRUCTION**		**P**
19.1	Input and output circuits electrically separated (EN IEC 61558-2-7)		P
	No possibility of any connection between these circuits (IEC 61558-2-7)		P
19.1.1	The insulation between input and output winding(s) consist of double or reinforced insulation (exception see 19.1.3) (IEC 61558-2-7)		P
	Insulation between input windings and body consist of double or reinforced insulation (EN IEC 61558-2-7)		P

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulation between output windings and body consist of double or reinforced insulation (EN IEC 61558-2-7)		P
19.1.2	The insulation between intermediate metal part and input or output windings consist of at least basic insulation(EN 61558-2-6:97)		N/A
	The insulation between input windings and body, and between output windings and body via intermediate metal part consist of double or reinforced insulation(EN 61558-2-6:97)		N/A
19.2	Fiercely burning material not used		P
	Unimpregnated cotton, silk, paper and fibrous material not used as insulation		P
	Wax-impregnated, etc. not used		P
19.3	Portable transformer: short-circuit proof or fail-safe		P
19.4	Class II transformers: contact between accessible metal parts and conduits or metal sheaths of supply wiring impossible	No such case	N/A
19.5	Class II transformers: part of supplementary or reinforced insulation, during reassembly after routine servicing not omitted		N/A
19.6	Class I and II transformers: creepage distances and clearances over supplementary or reinforced insulation if wire, screw, nut, etc. become loose or fall out of position not 50% specified values (Cl. 26)		P
19.7	Conductive parts connected to accessible metal parts by resistors or capacitors shall be separated from hazardous live parts by double or reinforced insulation		N/A
19.8	–components according to IEC 60 065, 14.1 or capacitor Y1 according to IEC 60 384-14		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–at least two separate components		N/A
	–if one component is short-circuited or opened, values specified in Cl. 9 shall not be exceeded		N/A
	–if the working voltage is < 250 V, one Y1 capacitor according 60384-14 is allowed		N/A
19.9	Insulation material input/output and supplementary insulation of rubber resistant to ageing		N/A
	Creepage distances (if cracks) specified values (Cl. 26)		N/A
19.10	Protection against accidental contact by insulating coating:		N/A
	a) ageing test (section I, IEC 60 068-2-2), test Ba: 168 h; 70 C		N/A
	b) impact test (spring-operated impact hammer according to IEC 60 068-2-63; 0,5 ± 0,05 J)		N/A
	c) scratch test (hardened steel pin) electric strength test according to Cl. 18		N/A
19.11	Handles, levers, knobs, etc.:		N/A
	–insulating material		N/A
	–supplementary insulation covering		N/A
	–separated from shafts or fixing by supplementary insulation		N/A
19.12	Windings construction	See below	P
19.12.1	Undue displacement in all types of transformers not allowed:		P
	–of input or output windings or turns thereof		P
	–of internal wiring or wires for external connection		P
	–of parts of windings or of internal wiring in case of rupture or loosening		P
19.12.2	Serrated tape:		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–distance through insulation according to table 13		N/A
	–one additional layer of serrated tape, and		N/A
	–one additional layer without serration		N/A
	–in case of cheekless bobbins the end turns of each layer shall be prevented from being dis-placed		N/A
19.12.3	Insulated winding wires		P
	-to all types of transformers for basic or supplementary insulation taken separately		N/A
	-transformers for switch mode power supplies for all types of insulation even in combination		N/A
	a) Winding wire with basic or supplementary insulation:		N/A
	-comply with Annex K		N/A
	-the insulation of the conductor: two layers		N/A
	b) Winding wire with double or reinforced insulation:		N/A
	-comply with Annex K		N/A
	- the insulation of the conductor: three layers		N/A
	- two adjacent insulated wires: separated by double insulation, each insulation (basic and supplementary) is rated for the working voltage of the insulation system		N/A
	c) Routine test according to Annex K.3 for windings giving double or reinforced insulation:		P
	- thermal cycling test according to 14.3		P
	- test according to 27.3		P
	- in table 13, table C.1 and table D.2, box 2) c), no value is required		P
19.13	Handles, operating levers and the like shall be fixed		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
19.14	Protection against electric shock: covers securely fixed, 2 independent fixing means, one with tool		P
19.15	Transformer with pins for fixed socket-outlets: no strain on socket-outlet		P
	Additional torque 0,25 Nm		P
19.16	Protection index for portable transformers:		N/A
	200 VA IP20 and instructions for use		N/A
	>200 VA 2,5 kVA IPX4 (single-phase)		N/A
	>200 VA 6,3 kVA IPX4 (polyphase)		N/A
	>2,5 VA (single-phase) IP21		N/A
	>6,3 VA (polyphase) IP21		N/A
19.17	Transformers IPX1 - IPX6 totally enclosed, except for drain hole (diameter 5 mm or 20 mm² with width 3 mm); drain hole not required for transformer completely filled with insulating materials		N/A
19.18	Transformers IPX1 with a moulded, if any		N/A
19.19	Class I transformers with a non-detachable flexible cable or cord with earth conductor and a plug with earth contact		N/A
19.20	Live parts of SELV and PELV circuits: separation not less than PRI/SEC of a safety isolating transformer		N/A
19.20.1	SELV circuits and parts not connected to protective earth, to live parts, or protective conductors forming part of other circuits		N/A
	Nominal voltage (V) > 25 V a.c. or 60 V d.c., the required insulation fulfils the high voltage test according to table 8 a		N/A
19.20.2	PELV circuits double or reinforced insulation is necessary		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
19.21	FELV circuits: protection against contact fulfils the min. test voltage required for the primary circuit		N/A
19.22	Class II transformers shall not be provided with means for protective earth		P
	For fixed transformers an earth conductor with double or reinforced insulation to accessible metal parts is allowed		N/A
19.23	Class III transformers shall not be provided with means for protective earth		N/A
19.101	No connection between output circuit and protective earth (EN 61558-2-7)		N/A
19.102	No connections between output winding and body or (EN 61558-2-7)		P
19.103	The distance between input and output terminals for the connection of external wiring is 25 mm		P
19.107	Toy transformers are in class II		P
19.108	Transformers not fixed or incorporated in toys		N/A
19.111	If two or more transformers with a.c. output are connected together (output circuits) and only one of them is connected to the mains, the voltage between the bare pins of the not mains connected transformer is ≤ 33 V a.c. (EN IEC 61558-2-7)		N/A
20	**COMPONENTS**		**P**
	Components such as switches, plugs, fuses, lamp holders, flexible cables and cords, comply with relevant IEC standard	See appended table.	P
	Components inside the transformer pass all tests of this standard together with the transformer tests		P
	Testing of components separately to the trans-former according the relevant standard:		P

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–Ratings of the component in line with the transformer ratings, including inrush current. Component test according the component standard,based on the component marking (rating).		P
	–Components without markings tested under transformer conditions including inrush current.		P
	–If no IEC standard exist, the component is tested under transformer conditions.		P
	Appliance couplers for main supply shall comply with:		N/A
	–IEC 60320 for IPX0		N/A
	–IEC 60309 for other		N/A
20.2	Automatic controls shall comply with IEC 60 730-1		N/A
20.3	Thermal-links comply with IEC 60691		N/A
20.4	Switches shall comply with annex F		N/A
	Disconnection from the supply:		N/A
	–by a switch, disconnecting all poles of the supply (full disconnection under the relevant overvoltage category		N/A
	–or a flexible supply cable and cord with plug		N/A
	–or an instruction sheet: disconnection by all-poles switches incorporated in fixed wiring		N/A
	No switches in supply flexible cables or cords (EN IEC 61558-2-7)		N/A
20.5	Socket-outlets of the output circuit shall be such that there is no unsafe compatibility to plugs complying with input circuit.		N/A
	Plugs and socket-outlets for SELV systems with both a rated current = 3A and a rated voltage =24 V shall comply with following:		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	SELV plug and socket-outlets shall comply with IEC 60 884-2-4 and IEC 60 906-3		N/A
	–It is not possible for plugs to enter socket-outlets of other standardised voltage system		N/A
	–Socket outlets do not accommodate plugs of other standardised voltage systems		N/A
	–Socket outlets do not have a protective earth contact		N/A
	PELV plug and socket-outlets shall comply with following:		N/A
	–It is not possible for plugs to enter socket-outlets of other standardised voltage system		N/A
	–Socket outlets do not accommodate plugs of other standardised voltage systems		N/A
	–Socket outlets do not have a protective earth contact		N/A
	FELV plug and socket-outlets shall comply with following:		N/A
	–It is not possible for plugs to enter socket-outlets of other standardised voltage system		N/A
	–Socket outlets do not accommodate plugs of other standardised voltage systems		N/A
	No permanent contact between plugs of the output circuit (one pin) and connectors according to IEC 60 320 (EN IEC 61558-2-7)		N/A
20.6	Thermal cut-outs, overload releases etc. have adequate breaking capacity		N/A
	–Thermal cut outs fulfil the relevant requirements of 20.7 and 20.8		N/A
	–Thermal links fulfil the relevant requirements of 20.8		N/A
	–The breaking capacity is in accordance with the relevant fuse standard		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
20.6.1	For Fuses According IEC 60127 and IEC 60269, the fuse current does not exceed 1,1 times of the rated value		N/A
20.7	Thermal cut outs shall meet the requirements of 20.7.1.1 and 20.7.2, or 20.7.1.2 and 20.7.2.		N/A
20.7.1	Requirements according to IEC 60730-1		N/A
20.7	Thermal cut outs shall meet the requirements of 20.7.1.1 and 20.7.2, or 20.7.1.2 and 20.7.2.		N/A
20.7.1	Requirements according to IEC 60730-1		N/A
	Non-self-resetting thermal cut-outs and non-self-resetting overload releases the number of cycles is increased from 300 to 1000 (EN IEC 61558-2-7)		N/A
20.7.1.1	Thermal cut-out tested as component shall comply with IEC 60 730-1		N/A
20.7.1.2	Thermal cut-out tested as a part of the transformer		N/A
	a) Thermal cut outs type 1 or type 2 (IEC 60730-1)		N/A
	b) Thermal cut outs fulfil the requirements of micro-interruption (type 1C or 2 C) or micro-disconnection, (type 1B or 2B) (see IEC 60730-1)		N/A
	c) Thermal cut outs with manual rest have a trip free mechanism (type 1E and 2E) (see IEC 60730-1)		N/A
	d) The number of cycles of automatic action shall be:		N/A
	–3000 cycles for self resetting thermal cut-outs		N/A
	–300 cycles for non self resetting thermal cut-outs resetting by hand		N/A
	–300 cycles for non self resetting thermal		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	cut-outs resetting disconnecting		
	–30 cycles for non self resetting thermal cut-outs which are only resetable by a tool		N/A
	e) Thermal cut outs fulfil the electrical stress according IEC 60730-1, 6.14.2		N/A
	f) Characteristic of thermal cut-outs:		N/A
	–ratings according IEC 60730-1, cl. 5		N/A
	–classification according to:		N/A
	1) nature of supply to IEC 60730-1, cl. 6.1		N/A
	2) type of load controlled to IEC 60730-1, cl. 6.2		N/A
	3) degree of protection IPX0 to IEC 60730-1, cl. 6.5.1		N/A
	4) degree of protection IP0X to IEC 60730-1, cl. 6.5.2		N/A
	5）pollution degree to IEC 60730-1, cl. 6.5.3		N/A
	6) comparative tracking index to IEC 60730-1, cl. 6.13		N/A
	7) max. ambient temperature to IEC 60730-1, cl. 6.7		N/A
20.7.1.2	Thermal cut-out tested as a part of the transformer,test with 3 samples:		N/A
	–at least micro-interruption or micro-disconnection (IEC 60730-1)		N/A
	–300 h aged at ta (transformer) + 10°C		N/A
	–subjected to a number of cycles for automatic operating according 20.7.1.1		N/A
	During the test no sustaining arcing shall occur, during and after the test no damage at the thermal cut out and the transformer in the sense of this standard		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
20.7.2	Thermal cut-outs shall have adequate breaking capacity		N/A
20.7.2.1	The output of the transformer with a non self resetting thermal cut out is short circuited at a supply voltage 1, 1 of rated supply voltage. After opening of the cut off, the supply voltage is switched of, until the transformer is cooling down.		N/A
	–3 cycles at 25° C for transformers without ta min		N/A
	–3 cycles at ta min for transformers with ta min		N/A
	–after the 3 cycles short circuit of the output at 1,1 of rated supply voltage for 48 h.		N/A
	During the tests no sustaining arcing shall occur After the test: withstand the test of clause 18, show no damage in sense of this standard, and be operational.		N/A
20.7.2.2	The output of the transformer with a self resetting thermal cut out is short circuited at a supply voltage 1, 1 of rated supply voltage.		N/A
	–48 h at 25° C for transformers without ta min		N/A
	–24 h at ta and 24 h at ta min for transformers with ta min		N/A
	During the tests no sustaining arcing shall occur After the test: withstand the test of clause 18, show no damage in sense of this standard, and be operational.		N/A
20.7.3	Test of a PTC resistor:		N/A
	5 cycles: transformer short-circuited for 48 h by1 ,1 times of the input voltage and max. ta		N/A
	5 cycles: transformer short-circuited for 48 h by 0 ,9 times of the input voltage and min. ta (if declared)		N/A
	After the test: withstand the test of clause 18,		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	show no damage in sense of this standard, and be operational.		
20.8	Thermal links shall be tested in one of the following two ways.		N/A
20.8.1	Thermal-links shall comply with IEC 60691 as a separate component.		N/A
	–electrical conditions to IEC 60691, cl. 6.1		N/A
	–thermal conditions to IEC 60691, cl. 6.2		N/A
	–ratings to IEC 60691, cl. 8 b		N/A
	–suitability of sealing components, impregnating fluids or cleaning solvents IEC 60691, cl. 8 c		N/A
20.8.2	Thermal-links tested as a part of the transformer:		N/A
	–ageing test 300 h by 35 Corta +10 C		N/A
	–After transformer fault condition the thermal link operate without sustaining arcing		N/A
	–after opening the thermal-link shall have an insulation resistance of at least 0,2 M		N/A
	–3 cycles for replaceable thermal-links		N/A
	–3 new specimens for not replaceable thermal-links		N/A
20.9	Self-resetting devices not used if mechanical, electrical, etc. hazards		N/A
20.10	Thermal cut-outs which can be reset by soldering operation are not allowed		N/A
20.11	Overload protection devices do not operate during test (20 times switched on and off, at no load);Upri (V): 1,1 times rated supply voltage.		P
20.101	Non-self-resetting thermal cut-outs and non-self-resetting overload releases (EN IEC 61558-2-7):		N/A
	Resettable without removing covers		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Short-circuit of the output terminals (EN IEC 61558-2-7):		N/A
	not possible to maintain in the ON position		N/A
	after removing the short-circuit, the device is to put in the ON position without removing any cover		N/A
20.102	Control devices (EN IEC 61558-2-7):		N/A
	in the output circuit operating reliably		N/A
	Test conditions (EN IEC 61558-2-7:97):		N/A
	power factor: 1		N/A
	rated Upri (V)		N/A
	rated output (VA)		N/A
	After 5000 cycles of operation (EN IEC 61558-2-7):		N/A
	temperature of the winding ≤ values specified in 14.1		N/A
	no-load input current not altered		N/A
20.103	Operating means of control devices not fixed to the transformer with exception of transformers for railways (EN IEC 61558-2-7)		N/A

21	**INTERNAL WIRING**		**P**
	Wire-ways smooth and free from sharp edges		P
21.2	Openings in sheet metal: edges rounded (radius1,5 mm) or bushings of insulating material		P
21.3	Bare conductors: distances adequately maintained		N/A
21.4	When external wires are connected to terminal, internal wiring shall not work loose		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
21.5	Insulation of heat-resistant and non-hygroscopic material for insulated conductors subject to temperature rise > limiting values given in 14.1		N/A
22	**SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CABLES AND CORDS**		**N/A**
22.1	All cables, flexible cords etc. shall have appropriate current and voltage ratings		N/A
22.2	Input and output wiring inlet and outlet openings for external wiring: separate entries without damage to protective covering of cable or cord		N/A
	Input and output wiring inlet and outlet openings for flexible cables or cords: insulating material or bushing of insulating material		N/A
	Bushings for external wiring: reliably fixed, not of rubber unless part of cord guard		N/A
	Fixed transformer:		N/A
	–possible to connect after fixing		N/A
	–inside space for wires allow easy introduction and connection of conductors		N/A
	–fitting of cover without damage to conductors		N/A
	–contact between insulation of external supply wires and live parts of different polarity not allowed		N/A
22.4	Length of Transformer cord for portable transformers between 2 m and 4 m; without 0,5 mm		N/A
22.5	Transformer cords for transformers IPX0 and transformers ”for indoor use only” > IPX0:		N/A
	–for transformers with a mass < 3 kg: 60227 IEC52 (H03VV-..) (60245 IEC 53)		N/A
	–for transformers with a mass > 3 kg: 60227 IEC53 (H05VV-..) or 60245 IEC 53		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Transformer cords for transformers for outdoor use: > IPX0: 60245 IEC57 (H05RN-..)		N/A
	Power supply cords of IP4X transformers not lighter than H05 RRF or H05 VVF (EN IEC 61558-2-7)		N/A
	Power supply cords of IP67 transformers not lighter than H05 RN-F (EN IEC 61558-2-7)		N/A
22.6	No use of appliance couplers in the supply of toy transformers (EN IEC 61558-2-7)		N/A
22.7	For transformers with < 500 g cross-sectional area of the supply cable or cord ≥ 1 mm² (EN IEC 61558-2-7)		N/A
22.8	Class I transformer with Transformer flexible cable: green/yellow core connected to earth terminal		N/A
	Plug for single-phase transformer with input current at rated output 16 A according to IEC 60 083,IEC 60 906-1 or IEC 60 309		N/A
22.9	Type Y and type Z attachments allowed (EN IEC 61558-2-7)		N/A
	Type X attachment is not allowed (EN IEC 61558-2-7)		N/A
22.9.1	For type Z attachment: moulding enclosure and Transformer cable do not affect insulation of cable		N/A
22.9.2	Inlet openings or inlet bushing: without risk of damage to protective covering of Transformer cord		N/A
	Insulation between conductor and enclosure:		N/A
	–for Class I transformer: insulation of conductor plus separate basic insulation		N/A
	–for Class II transformer: insulation of conductor plus double or reinforced insulation		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
22.9.3	Inlet bushings:		N/A
	–no damage to Transformer cord		N/A
	–reliably fixed		N/A
	–not removable without tool		N/A
	–not integral with Transformer cord (for type X attachment)		N/A
22.9.4	For portable transformers which are moved while operating:		N/A
	–cord guards, if any, of insulating material and fixed		N/A
	Compliance is tested by the oscillating test according to fig. 7:		N/A
	–loaded force during the test according to fig. 7		N/A
	–10 N for a cross-sectional area > 0,75		N/A
	–5 N for a cross-sectional area 0,75		N/A
	After the test according to fig. 7:		N/A
	–no short-circuit between the conductors		N/A
	–no breakage of more than 10% of stands of any conductor		N/A
	–no separation of the conductor from the terminal		N/A
	–no loosening of any cord guards		N/A
	–no damage of the cord or cord guard		N/A
	–no broken strands piercing the insulation and not becoming accessible		N/A
22.9.5	Cord anchorages for type X attachment:		N/A
	–glands in portable transformers not used unless possibility for clamping all types and sizes of cable		N/A
	–moulded-on designs, tying the cable into a knot and tying the end with string not allowed		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–labyrinths, if clearly how, permitted		N/A
	–replacement of cable easily possible		N/A
	–protection against strain and twisting clearly how		N/A
	–suitable for different types of cable unless only one type of cable for transformer		N/A
	–the entire flexible cable or cord with covering can be mounted into the cord anchorage		N/A
	–if tightened or loosened no damage		N/A
	–no contact between cable or cord and accessible or electrically connected clamping screws		N/A
	–cord clamped by metal screw not allowed		N/A
	–one part securely fixed to transformer		N/A
	–for Class I transformer: insulating material or insulated from metal parts		N/A
	–for Class II transformers: insulating material or supplementary insulation from metal parts		N/A
	Cord anchorages for type X, Y, Z attachments: cores of power external flexible cable or cord insulated from accessible metal parts by:		N/A
	–basic insulation (Class I transformers), separate insulating barrier/cord anchorage		N/A
	–supplementary insulation (Class II transformers), special lining/cable or cord sheath of cable sheath of cable		N/A
	Cord anchorages for type X and Y attachments:		N/A
	–replacement of external flexible cable or cord does not impair compliance with standard		N/A
	–the entire flexible cable or cord with covering can be mounted into the cord anchorage		N/A
	–if tightened or loosened no damage		N/A
	–no contact between cable or cord and accessible or electrically connected clamping screws		N/A
	–cord clamped by metal screws not allowed		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–knots in cord not used		N/A
	–labyrinths, if clearly how, permitted		N/A
	–Tests for type X with special cords, type Y, type Z		N/A
	Test for type X attachments one test with a cord with smallest and one test with a cord with the largest cross-sectional area:		N/A
	–for the test with clamping screws or tightened with torque 2/3 of that specified in table 11		N/A
	–not possible to push cable into transformer		N/A
	–25 pulls of 1 s		N/A
	–1 min torque according to table 10		N/A
	–mass (kg); pull (N); torque (Nm) .....:		N/A
	–during test: cable not damaged		N/A
	–after test: longitudinal displacement 2 mm for cable or cord and 1mm for conductors in terminals		N/A
	–creepage distances and clearances values specified in Cl. 26		N/A
22.9.6	Space for external cords or cable for fixed wiring and for type X and Y attachments:		N/A
	–before fitting cover, possibility to check correct connection and position of conductors		N/A
	–cover fitted without damage to supply cords		N/A
	–for portable transformers: contact with accessible metal parts if conductor becomes loose not allowed unless for type X and Y attachments terminations of cords do not slip free of conductor		N/A
	Space for external cords or cable for type X attachment and for connection to fixed wiring, in		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	addition:		
	–conductor easily introduced and connected		N/A
	–possibility of access to terminal for external conductor after removal of covers without special purpose tool		N/A
23	**TERMINALS FOR EXTERNAL CONDUCTORS**		N/A
23.1	Transformer for connection to fixed wiring and transformer without Transformer cords with type Y and Z attachments: only connections by screws, nuts, terminals		N/A
	Terminals are integral part of the transformer:		N/A
	–comply with IEC 60 999-1 under transformer conditions		N/A
	Other terminals:		N/A
	–separately checked according to IEC 60 998-2-1, IEC 60 998-2-2 or IEC 60 947-7-1		N/A
	–used in accordance with their marking		N/A
	–checked according to IEC 60 999-1 under transformer conditions		N/A
	Transformer with type X attachments: soldered connection permitted if reliance not placed upon soldering, crimping or welding alone unless by barriers, creepage distances and clearances between hazardous live parts and metal parts should conductor break away 50% of specified value (Cl. 26)		N/A
	Transformer with type Y and Z attachments for external conductors: soldered, welded, crimped, etc. connections allowed		N/A
	For Class II transformer: reliance not placed upon		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	soldering, crimping or welding alone unless by barriers, creepage distances and clearances between hazardous live parts and metal parts should conductor break away 50% of specified value (Cl. 26)		
23.2	Terminals for type X with special cords Y and Z attachments shall be suitable for their purpose:		N/A
	–test by inspection according to 23.1 and 23.2		N/A
	–pull of 5 N to the connection before test according to 14.1		N/A
23.3	Other terminals than Y and Z attachments shall be so fixed that when the clamping means is tightened or loosened:		N/A
	–terminal does not work loose		N/A
	–internal wiring is not subjected to stress		N/A
	–creepage distances and clearance are not reduced below the values specified in Cl. 26		N/A
23.4	Other terminals than Y and Z attachments shall be so designed that:		N/A
	–they clamp the conductor between metallic surfaces with sufficient contact pressure		N/A
	–without damage to the conductor		N/A
	–test by inspection according to 23.3 and 23.4		N/A
	–10 times fastening and loosening a conductor with the largest cross-sectional area with 2/3 of the torque specified in Cl. 25		N/A
23.5	Terminals for fixed wiring and for type X: located near their associated terminals of different polarities and the earth terminal if any		N/A
23.6	Terminal blocks not accessible without the aid of a tool		N/A
23.7	Transformer with type X attachments: stranded		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	conductor test (8 mm removed):		
	–Class I transformers: no connection between live parts and accessible metal parts		N/A
	–free wire of earth terminal: no touching of live parts		N/A
	–Class II transformers: no connection between live parts and accessible metal parts, no connection between live parts and metal parts separated from accessible metal parts by supplementary insulation		N/A
23.8	Terminals for a current > 25 A:		N/A
	–pressure plate, or		N/A
	–two clamping screws		N/A
23.9	When terminal, other than protective earth conductor, screws loosened as far as possible, no con-tact:		N/A
	–between terminal screws and accessible metal parts		N/A
	–between terminal screws and inaccessible metal parts for Class II transformers		N/A
24	**PROVISION FOR PROTECTIVE EARTHING**		**N/A**
24.1	Class I transformers: accessible conductive parts connected to earth terminal		N/A
	Class II transformers: no provision for earth		P
24.2	Protective earth terminal for connection to fixed wiring and for type X attachment transformers: comply with Cl. 23, adequately locked, not possible to loosen without a tool		N/A
24.3	No risk of corrosion from contact between metal of earth terminal and other terminal		N/A
	In case of earth terminal body of Al, no risk of corrosion from contact between Cu and Al		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Body of earth terminal or screws/nuts of brass or other metal resistant to corrosion		N/A
	Resistance of connection between earth terminal and metal parts 0,1 with a min.25 A or 1,5 rated input current at 1 min		N/A
	Class I transformers with external flexible cables or cords:		N/A
	–current-carrying conductors becoming touch before the earth conductor		N/A
25	**SCREWS AND CONNECTIONS**		**N/A**
25.1	Screwed connections withstand mechanical stresses		N/A
	Screws transmitting contact pressure or likely to be tightened by the user or having a diameter <2,8 mm, shall screw into metal		N/A
	Screws not of metal which is soft or liable to creep (Zn, Al)		N/A
	Screws not of insulating material if their replacement by metal screws can impair supplementary or reinforced insulation		N/A
	Screws to be removed (replacement etc. of power supply cord) not of insulating material if their re-placement by metal screws can impair basic insulation		N/A
	No damage after torque test: diameter (mm); torque (Nm); ten times		N/A
	No damage after torque test: diameter (mm); torque (Nm); five times		N/A
25.2	Screws in engagement with thread of insulating material:		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–length of engagement 3 mm + 1/2 screw diameter or 8 mm		N/A
	–correct introduction into screw hole		N/A
25.3	Electrical connections: contact pressure not transmitted through insulating material		N/A
25.4	In case of use of thread-forming (sheet metal) screws for connection of current-carrying parts: clamping and locking means provided		N/A
	Thread-cutting (self-tapping) screws used for the connection of current-carrying parts allowed if they generate a full form machine screw thread and if not operated by the user		N/A
	Thread-cutting screws and thread-forming screws used for earth continuity allowed if at least 2 screws for each connection are used and it is not necessary to disturb the connection in normal use		N/A
25.5	Screws for current-carrying mechanical connections locked against loosening		N/A
	Rivets for current-carrying connections subject to torsion locked against loosening		N/A
25.6	Test of screwed glands with a torque according table 12. After the test no damage at the transformer and the gland.		N/A
26	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
26.1	Specified values according to:		P
	-table 13, material group III		P
	-table C, material group II		N/A
	-table D material group I		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	1. Insulation between input and output circuits (basic insulation):		N/A
	a) measured values specified values(mm) .....:		N/A
	a) measured values specified values(mm) .....:		N/A
	b) measured values specified values(mm) .....:		N/A
	c) measured values specified values(mm) .....:		N/A
	3. Insulation between adjacent input circuits: measured values specified values (mm) .....:		N/A
	Insulation between adjacent output circuits: measured values specified values (mm) .....:		N/A
	4. Insulation between terminals for external connection:		N/A
	a) measured values specified values(mm) .....:		N/A
	b) measured values specified values(mm) .....:		N/A
	c) measured values specified values(mm) .....:		N/A
	5. Basic or supplementary insulation:		N/A
	a) measured values specified values(mm) .....:		N/A
	b) measured values specified values(mm) .....:		N/A
	c) measured values specified values(mm) .....:		N/A
	d) measured values specified values (mm) .....:		N/A
	e) measured values specified values (mm) .....:		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	6. Reinforced or double insulation: measured values specified values (mm) .....:		N/A
	7. Distance through insulation:		N/A
	a) measured values specified values (mm) .....:		N/A
	b) measured values specified values (mm) .....:		N/A
	c) measured values specified values (mm) .....:		N/A
	d) measured values specified values (mm) .....:		N/A
	Creepage distances and clearances are measured:		N/A
	-for fixed wiring and type X attachments with max.and min. size		N/A
	-for type X with a special cord, Y or Z attachments with the supply cable as delivered		N/A
	-for layers of serrated tapes the values are so determined as if the serration coincided through the different layers		N/A
	-for printed wiring shall be used the unreduced values for live parts as in table 13, C.1 or D.1, except if printed wiring complies with IEC 60664-3		N/A
	If the pollution generates high and persistent conductivity caused, for instance, by conductive dust or by rain or snow:		N/A
	-clearances of P3 increased with min. 1,6 mm		N/A
	-value X in Annex A increased with 4,0 mm		N/A
26.2	Creepage distances and clearances		N/A
	A) To test the potting or impregnation, three transformers are used:		N/A
	-thermal class		N/A
	- working voltage		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	Test with three transformers		N/A
	Two of the three specimens are subjected to:		N/A
	- the relevant humidity treatment according to 17.2 (48 h)		N/A
	- the relevant dielectric strength test of 18.3 multiplied with factor 1,25		N/A
	One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multiplied by the factor 1,25 immediately at the end of the last cycle with high temperature		N/A
	Impulse dielectric test according to 4.1.1.2.1 of IEC 60664-1 (1,2 / 50 s waveform)		N/A
	Impulse test voltage		N/A
	Requirements of reduced values as stated for pollution degree 1 (P1) are fulfilled (see 26.1)		N/A
	B) To test parts which are connected (stuck) together:		N/A
	- thermal class		N/A
	- working voltage		N/A
	Test with three specially prepared specimens		N/A
	Two of the three specimens are subjected to:		N/A
	- the humidity treatment according to 17.2 (48 h)		N/A
	- the relevant dielectric strength test of 18.3 multiplied with factor 1,6		N/A
	One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multiplied by the factor 1,6 immediately at the end of the last cycle with high temperature		N/A
	Impulse dielectric test according to 4.1.1.2.1 of IEC 60 664-1 (1,2 / 50 s waveform)		N/A
	Impulse test voltage		N/A
	Requirements of reduced values as stated for		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	pollution degree 1 (P1) are fulfilled (see 26.1)		
26.3	Distance through insulation		P
	For double or reinforced insulation, the required values of Tables 13, C1, and D1 – boxes 2b, 2c and 7 are fulfilled		P
	The insulation fulfil the material classification according IEC 60085 or 60216 or the test of 14.3		P
26.3.1	Reduced values of the thickness of insulation for supplementary or reinforced insulation are allowed if the following conditions are fulfilled:		P
	–the isolating materials are classified acc. to IEC 60085 and IEC 60216		N/A
	–the test of 14.3 is fulfilled		N/A
	–If both requirements are fulfilled, the required values for solid insulation can be multiplied by 0,4		N/A
	–Minimum thickness of reinforced insulation >0,2 mm		N/A
	–Minimum thickness of supplementary insulation >0,1 mm		N/A
26.3.2	Insulation in thin sheet form		P
	–If the layers are non separable (glued together):		N/A
	–The requirement of 3 layers is fulfilled		N/A
	–The mandrel test according 26.3.3 is fulfilled with 150 N		N/A
	–The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index ”e” are fulfilled.		N/A
	–If the layers are separated:		N/A
	–The requirement of 2 layers is fulfilled		N/A
	–If serrated tape is used, 1 additional layer		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	(serrated) and one additional layer without serration is required		
	–The mandrel test according 26.3.3 is fulfilled on each layer with 50 N		N/A
	–The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index ”e” are fulfilled.		N/A
	–If the layers are separated (alternative:		P
	–The requirement of 3 layers is fulfilled		P
	–If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required		N/A
	–The mandrel test according 26.3.3 is fulfilled on 2/3 of the layers with 100 N		P
	–The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index ”e” are fulfilled.		P
	Test according to 14.3 and if the isolating materials are classified acc. to IEC 60085 and IEC 60216 no distances through insulation are required for insulation in thin sheet form		N/A
	The figures within square brackets in box 2 and 7 of table 13 (C.1/D.1) are used for insulation in thin sheet form as follows:		P
	–rated output > 100 VA values in square brackets apply		N/A
	–rated output 25 VA 100 VA 2/3 of the value in square brackets apply		N/A
	–rated output 25 VA 1/3 of the value in square brackets apply		N/A
26.3.3	Mandrel test of insulation in thin sheet form (specimen 0f 70 mm width are necessary):		P

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	–If the layers are non separable – at least 3 layers glued together fulfil the test:		P
	–pull force of 150 N		N/A
	–high voltage test of 5,0 kV or the test voltage of 18.3 multiplied by 1,25 whatever is the greater. No flashover, no breakdown.		N/A
	–If the layers are separable and 2/3 of at least 3 layers fulfil the test.		P
	–pull force of 100 N		P
	–high voltage test of 5,0 kV or the test voltage of 18.3 multiplied by 1,25 whatever is the greater. No flashover, no breakdowns.		P
	–If the layers are separable 1 of at least 2 layers fulfil the test:		N/A
	–pull force of 50 N		N/A
	–high voltage test of 5,0 kV or the test voltage of 18.3 multiplied by 1,25 whatever is the greater. No flashover, no breakdown.		N/A
27	**RESISTANCE TO HEAT, FIRE AND TRACKING**		**P**
27.1	Resistance to heat		N/A
	All insulating parts are resistant to heat		N/A
	For parts of rubber, which passed the test of 19.9,no additional test is required		N/A
	The tests are not required for cables and small connectors with a rated current < 3 A, a rated voltage < 24 V a.c. or 60 V d.c. and a power < 72 W		P
27.1.1	External accessible parts		N/A
	The Ball-pressure test -: diameter of impression 2mm;heating cabinet temperature (C) at 70 ° C or the temperature T of 14.1 (T + 15) - is fulfilled.		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
27.1.2	Internal parts		-
	For insulating material retaining current carrying parts in position , the ball-pressure test -: diameter of impression 2mm; mm; heating cabinet tempera- ture (C) at 125 ° C or the temperature T of 14.1 (T + 15) - is fulfilled		N/A
27.2	Resistance to abnormal heat under fault conditions		N/A
27.3	Resistance to fire		N/A
	All isolating parts of the transformer shall be resistant to ignition and spread of fire. The test according to IEC 60696-2-10 is required		N/A
27.3.1	External accessible parts (glow wire tests)		N/A
	–650° C for enclosures		N/A
	–650 ° C for parts retaining current carrying parts in position and terminals for external conductors Current < 0,2 A		N/A
	–750° C for parts retaining current carrying parts in position and terminals for external conductors with fixed wiring. Current > 0,2 A		N/A
	–850° C for parts retaining current carrying parts in position and terminals for external conductors with non fixed wiring. Current > 0,2 A		N/A
27.3.2	Internal parts		N/A
	–550° C for internal insulating material – not re- taining current carrying parts in position		N/A
	–650° C for coil formers (bobbins)	Transformer bobbin	N/A
	–650 ° C for parts retaining current carrying parts in position and terminals for external conductors. Current < 0,2 A		N/A
	–750° C for parts retaining current carrying parts		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	in position and terminals for external conductors with fixed wiring. Current > 0,2 A		
	–850° C for parts retaining current carrying parts in position and terminals for external conductors with non fixed wiring. Current > 0,2 A		N/A
27.4	For IP other than IPX0:If insulating parts retaining current carrying parts in position and under P3 conditions, the material resistance to tracking is at least material of group IIIa		N/A
	Test (175 V): no flashover or breakdown before 50 drops		N/A
28	**RESISTANCE TO RUSTING**		N/A
	Ferrous parts protected against rusting		N/A
E	**ANNEX E , GLOW WIRE TEST**		**P**
	The test is required according to IEC 60695-2-10 and IEC 60695-2-11 with the following additions:		P
E.1	Clause 6, ”Severities” of IEC 6095-2-11, apply with the temperature stated in 27.3 of EN 61558-1		P
E2	Clause 8, ”Conditioning”, of IEC 60695-2-11 apply,preconditioning is required		P
E3	Clause 10, ”Test Procedure”, of IEC 60695-2-11apply, The tip of the glow wire is applied to the flat side of the surface.		P
F	**ANNEX F, REQUIREMENTS FOR MANUALLY OPERATED SWITCHES WHICHARE PARTS OF THE Three-phase isolating transformer**		**N/A**
F.2	Manually operated mechanical switches, tested as separate component, shall comply with IEC 61058 under the conditions of F2.	No switch	N/A
F.§	Manually operated mechanical switches tested as part of the transformer shall comply with the conditions specified under F.3		N/A
H	**ANNEX H, ELECTRONIC CIRCUITS**		**P**

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
H1	General notes on tests (addition to clause 5)		P
H.2	SHORT-CIRCUIT AND OVERLOAD PROTECTION (ADDITION TO CLAUSE 15)		P
H.2.1	Circuits designed and applied so that fault conditions do not render the appliance unsafe		P
	During and after each test:		P
	–temperatures do not exceed values specified in table 3 of Cl. 15.1		P
	–transformer complies with conditions specified in sub-clause 15.1		P
	If a conductor of a PCB becomes open circuited, the transformer is considered to have withstood the particular test, provided that all six conditions as specified are met		P
H.2.2	Fault conditions a) to f) of sub-clause H.2.3 are not tested if the following conditions are met:		N/A
	–electronic circuit is a low-power circuit as specified		N/A
	–safety of the appliance as specified does not rely on correct functioning of the electronic circuit		N/A
H.2.3	Fault conditions tested as specified when relevant:		N/A
	a) short-circuit of creepage distances and clearances, if less than specified in Cl. 26		N/A
	b) open circuit at the terminals of any component		N/A
	d) short-circuit of any two terminals of an electronic component as specified		N/A
	e) any failure of an integrated circuit as specified		N/A
	f) low-power circuit: low-power points are connected to the supply source		N/A
	Cl. 15 is repeated with a simulated fault as		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	indicated in a) to e), if the transformer incorporates an electronic circuit to ensure compliance with Cl. 15		
	Fault condition e) is applied for encapsulated and similar components		N/A
	PTC's and NTC's are not short-circuited if they are used as specified		N/A
H.2.4	If for a fuse-link complying with IEC 60 127-3 rated fuse current I1 is used, current I2 is measured as specified:		N/A
	–if I2 < 2,1 x I1 test of 15.8 is repeated with fuse-link short-circuited		N/A
	–if I2 > 2,75 x I1, no other tests are necessary		N/A
	If I2 > 2,1 x I1 and I2 < 2,75 x I1 test of 15.8 is repeated as specified		N/A
	For fuses other than those complying with IEC 60 127-3, the test is carried out as specified 15.3.2 to 15.3.5		N/A
H.3	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION		N/A
	For live parts separated by basic insulation smaller cr and cl as in 26 are allowed, if H2 is fulfilled.		N/A
	In optocouplers no requirements of cr and cl		N/A
	For coatings annex W applies. Smaller distances as required in IEC 60664-3, clause 4 are applicable,		N/A
	For potted transformers cycling tests acc, 26.2. are applicable		N/A
H.3.2	The ma. surface temperature of optocouplers is 50 K		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
K	**ANNEX K, INSULATED WINDING WIRES**		**P**
K.1	General		N/A
	This annex specifies the winding wires of the insulation that may be used to provide basic insulation,supplementary insulation, double insulation or reinforced insulation in wound components. For details of the construction, see 19.12.3.		N/A
	This annex applies to solid circular winding wires and stranded winding wires having diameters between 0,05 mm and 5,0 mm and solid square and solid rectangular (flatwise bending) winding wires with equivalent cross-sectional areas (0,002 to 19,6 mm2).		N/A
K.2	Type tests		N/A
K.2.1	The winding wire shall pass the following type tests, carried out at a temperature between 15 °C and 35 °C and a relative humidity between 25 % and 75 %, unless otherwise specified.		N/A
K.2.2	Electric strength		N/A
K.2.2.1	Solid circular winding wires and stranded winding wires	See below	P
	The test sample is prepared according to 4.4.1 of IEC 60851-5:2008 (twisted pair). The sample is then subjected to the electric strength test of 18.3 in this standard with a test voltage standard, with a minimum of:		N/A
	–6 kV r.ms. for reinforced insulation, or		P
	–3 kV r.m.s. for basic insulation or supplementary insulation.		N/A
K.2.2.2	Square or rectangular wires		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	The test sample is prepared according to 4.7.1 of IEC 60851-5:2008 (single conductor surrounded by metal shots). The sample is then subjected to the electric strength test of 18.3 of this standard, with a minimum test voltage of:		N/A
	–5,5 kV r.m.s. for reinforced insulation, or		N/A
	–2,75 kV r.m.s. for basic insulation or supplementary insulation.		N/A
K.2.3	Flexibility and adherence		N/A
	5.1 (in Test 8) of IEC 60851-3:2009 shall be used, using the mandrel diameters of Table K.1. The test voltage is applied between the wire and the mandrel.		N/A
	The test sample is then examined in accordance with 5.1.1.4 of IEC 60851-3:2009, followed by the electric strength test of 18.3 in this standard, with minimum test voltage of:		N/A
	–5,5 kV r.m.s. for reinforced insulation, or		N/A
	–2,75 kV r.m.s. for basic insulation or supplementary insulation.		N/A
	The test voltage is applied between the wire and the mandrel.		N/A
	The tension to be applied to the wire during winding on the mandrel is calculated from the wire diameter to be equivalent to 118 MPa ± 10 % (118 N/mm2 ± 10 %).		N/A
	Edgewise bending on the smaller dimension side (width) is not required for rectangular wire. For mandrel winding test of the square and rectangular wire, two adjacent turns do not need to contact each other.		N/A
K.2.4	Heat shock		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	The test sample shall prepared in accordance with 3.1.1 (in Test 9) of IEC 60851-6:1996, followed by the electric strength test of 18.3 in this standard, with a minimum test voltage of:		N/A
	–5,5 kV r.m.s. or for reinforced insulation, or		N/A
	–2,75 kV r.m.s for basic insulation or supplementary insulation.		N/A
	The test voltage is applied between the wire and the mandrel. The oven temperature is the relevant temperature of the thermal class of insulation in Table K.2. The mandrel diameter and tension applied to the wire during winding on the mandrel are as in Table K.1. The test voltage is applied between the wire and the mandrel.		N/A
	The electric strength test is conducted at room temperature after removal from the oven.		N/A
K.2.5	Retention of electric strength after bending		N/A
K.3	Testing during manufacturing		N/A
K.3.1	General		N/A
	The wire shall be subjected by the wire manufacturer to electric strength tests during manufacture as specified in K.3.2 and K.3.3.		N/A
K.3.2	Routine test		N/A
K.3.3	Sampling test		N/A
K.3.3.1	Solid circular winding wires and stranded winding wires		N/A
K.3.3.2	Square or rectangular wire		N/A
U	**ANNEX U – INFORMATIVE –OPTIONAL TW – MARKING FOR Three-phase isolating transformer**		**N/A**

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	The tests of Annex U are based on constant S = 4500. Other constants are possible, if the test of U.5.2 is done with positive result.		N/A
U1	General notes and tests		N/A
	8 transformers of one type are necessary for the test. Tests according U5.		N/A
U.2	Heating (addition to clause 14)		N/A
14.4	Thermal endurance test		N/A
	Test according U5 and measurements according 11.1		N/A
	Transformers tested as a integral part of the equipment (option), assigned with tw		N/A
	The thermal conditions are so adjusted, that the duration of test is as indicated by the manufacturer.		N/A
	If no indications are given, the test period is 30 days		N/A
	After the test, when the transformers have returned to room temperature, they fulfil the following requirements:		N/A
	a) The output voltage has not changed from the measured value at the beginning by more than allowed value of clause 11.1		N/A
	b) The insulation resistance between input and output winding and between windings and body is, measured with 500 V d.c. , not less than 1 MOhm		N/A
	c) The transformer fulfil the dielectric strength test with 35% of the values in Clause 18, Table 8.a.		N/A
	The test result is positive, is min. 6 of the 7 samples have passed the test.		N/A
	The test result is negative, if 2 or more samples		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	fail the test		
	If the result is negative, the test can be repeated with 7 new samples		N/A
U.3	Short circuit and overload protection (addition to clause 15)		N/A
	At short circuit and overload tests the winding temperature if less than the required value of table U.1		N/A
U.5	General requirements and information about thermal endurance test on windings		N/A
U.5.1	Thermal endurance test		N/A
	Transformers tested at rated output		N/A
	Loads outside of the oven		N/A
	7 transformers are placed in the oven		N/A
	The temperature of the hottest winding of each of the 7 transformers is-together with the oven temperature, at the applicable temperature of table U.2		N/A
	After 4 hours measuring of the actual winding temperatures. Regulation of the oven temperature if necessary		N/A
	After 24 hours again measuring of the winding temperature. The temperatures of the 7 samples are very near to the required temperature of the values of table U.2. The test time of the coldest winding is not longer than twice the theoretical test time based on table U.2		N/A
U.5.2	The use of constant S other than 4500 in tw tests		N/A
U.5.2.1	Procedure a)		N/A
	The manufacturer prepares test results with a minimum of samples of 30.		N/A

IEC 61558-1 IEC 61558-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	T and log L are calculated from the dates		N/A
	The diagram according to Figure U.2 will be founded.		N/A
U.5.2.3	Procedure b)		N/A
	The testing authority shall test 14 new transformers		N/A
	Test 1, based on clause U.5.1 but at the calculated test room temperature for 10 days. The test is continued until all transformer fail.		N/A
	Calculation of the mean life L2 at temperature T2 according to U4		N/A
	Test 2, based on clause U.5.1 but at a calculated room temperature T2 (for 120 days).The test time with T2 exceeds L2.		N/A
	If all transformers fail before L2, the result is negative.		N/A
V	**ANNEX V, SYMBOLS TO BE USED FOR THERMAL CUT-OUTS**		**N/A**
V.2.1.1	Restored by manual operation  IEC 489/98	No thermal cut-out	N/A
V.2.1.2	Restored by disconnection of the supply  IEC 490/98		N/A
V.2.1.3	Thermal link  IEC 491/98		N/A
V.2.2	Self-resetting thermal cut-out  IEC 492/98		N/A

11 and 12	TABLE: output voltage and output current under load; no-load output voltage					P
Clause		11		12		further information:Limit for cl 11/cl 12
type/rated output/	rated voltage (V)	sec. voltage (V)	delta Usec (%)	Usec V no-load output	delta Usec no-load output %	
Model: YTY-12F-01 05100EU	220V/50Hz	4.78VDC	-4.4%	DC5.01v	-4.59%	Limit: ±10%/±20%
	220V/60Hz	4.78VDC	-4.4%	DC5.01v	-4.59%	Limit: ±10%/±20%
	240V/50Hz	4.69VDC	-6.2%	DC5.02v	-6.57%	Limit: ±10%/±20%
	240V/50Hz	4.69VDC	-6.2%	DC5.02v	-6.57%	Limit: ±10%/±20%

14	TABLE: HEATING					P
	Test voltage (V).....:				See below	--
	Ambient (° C).....:				See below	--
Thermocouple locations:	max. temperature measured,(° C)					max.temperaturelimit,(° C)
	90V/60Hz		264V/50Hz			
	Label down	Label UP	Label down	Label UP		
Transformer winding	87.5	90.3	85.4	86.7		120
Transformer bobbin	89.3	93.6	87.2	90.5		120
PCB near DC port	54.1	56.2	50.4	52.9		105
Electrolytic capacitor (C1)	56.9	59.5	52.6	54.0		105
Electrolytic capacitor (C3)	55.7	58.3	51.4	53.6		105
PCB near Y-capacitor	58.7	60.6	55.3	57.1		105
Plastic enclosure inside	45.9	49.2	42.1	44.7		Ref.
Plug holder	35.6	37.2	34.7	35.3		80
Plastic enclosure outside	30.7	32.1	30.5	31.4		80

14	TABLE: HEATING				P
	Test voltage (V).....:			See below	--
	Ambient (° C).....:			See below	--
Thermocouple locations:	max. temperature measured,(° C)				max.temperaturelimit,(° C)
	90V/60Hz		264V/50Hz		
	Label down	Label UP	Label down	Label UP	
Supplementary information: 1. .Thermocouple method used. 2. The above temperature data are fixed at ambient temperature 25°C.					

15	TABLE: SHORT-CIRCUIT AND OVERLOAD PROTECTION		P
	Test voltage (V).....:	264V/50Hz	--
	Ambient (° C).....:	24.3℃	--
Thermocouple locations:	max. temperature measured,(° C)	max.temperaturelimit,(° C)	
Transformer coil	109.2	175	
Transformer core	101.6	Ref.	
PCB near Output port	56.7	Ref.	
Enclosure outside near T1	48.9	71	
Plug holder	51.3	71	
Supplementary information: 1. All the conditions were considered for dause 15, and also Max. temperature with rated 1.1 times voltage during test output overload for recorded as above 2. The above temperature data are fixed at ambient temperature 25°C. 3. Thermocouple method used. 4. Limited temperature for winding is 175°C (Class B) under 25°C ambient.			

Table 18.2	insulation resistance measurements	P

Insulation resistance between:	R (MΩ)	Required R (MΩ)
Between mains poles (F1 disconnected)	>100	2
F1 two terminals (F1 disconnected)	>100	2
Between live parts and output circuit	>100	5
Between live parts and external enclosure	>100	7
Between primary winding of transformer and secondary transformer	>100	5
Between core of transformer and secondary winding of transformer	>100	5
Remark: 1) After test,cord shall not be damaged,and clearances and creepage distances shall not be reduced.		

Table 18.3	Dielectric strength test	P

Test voltage applied between:	Test Voltage	Break down
Between mains poles (F1 disconnected)	1500V	No
F1 two terminals (F1 disconnected)	1500V	No
Between live parts and output circuit	3000V	No
Between live parts and external enclosure	3000V	No
Between primary winding of transformer and secondary transformer	3000V	No
Between core of transformer and secondary winding of transformer	3000V	No
Supplementary information:/		

20	TABLE: List of critical components	P

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity1
Plug Pin	Interchangeable	Interchangeable	2 copper blades, non-polarized type. Any point on either blade located at		UL

			least 5.1mm to perimeter of the face section from which the blades project		
Plug holder	SABIC INNOVATIVE PLASTICS US L L C	940(f1)	PC, V-0, 120°C, min. thickness: 1.5mm	UL 94, UL 746C	UL E121562+ Test with appliance
Plastic enclosure	SABIC INNOVATIVE PLASTICS US L L C	940(f1)	PC, V-0, 120°C, min. thickness: 1.5mm	UL 94, UL 746C	UL E121562+ Test with appliance
PCB	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160A	FR-4, V-0, 130℃	UL 94 UL 796 UL 62368-1	UL E123995 +Tested with appliance
Fuse (F1)	Shenzhen Lanson Electronics Co. Ltd.	SMT	T2A,250V	IEC/EN60127-1 IEC/EN60127-3	VDE 40012592
Electrolytic capacitor(C2,C1)	Interchangeable	Interchangeable	33uF, 400V, 105 °C	EN 61558-1	Test within appliance
Electrolytic capacitor(C7)	Interchangeable	Interchangeable	560uF, 6.3V,	EN 61558-1	Test within appliance
Y-Cap.(CY1)	Jya-Nay Co Ltd	JN	X1:440VAC Y1:400VAC 1000pF	EN60384-14	UL E201384
L1 Chock (L1)	Interchangeable	Interchangeable	1mH	EN 61558-1	Test within appliance
Transformer (T1,)		EE1910-30W	Class B, 130°C	UL 62368-1	Test within appliance
-Bobbin	CHANG CHUN PLASTICS CO	T375J	V-0, 150℃,	UL746	UL E59481

	LTD				
-(alternative)	CHANGSHU SOUTH-EAST PLASTIC CO LTD	PF2C5-7507	V-0, 150℃,	UL746	UL E136137
--Magnet wire	TA YA ELECTRIC WIRE & CABLE CO LTD	MW 75-C	Class B	IEC/EN 61050-1	UL E84201
-Insulation Tape	SHEN ZHEN XINHUAHUI ELECTRONIC MATERIALS CO LTD	HMT	130°C	UL 510A	UL E328315
-(alternative)	Haining ChuLong Tape Co Ltd	CL All Color-1	130°C	UL 510A	UL E464604
-Tube	DONGGUAN LING FREE HARDWARE PLASTICS PRODUCT CO LTD	LING FREE PTFE TUBE	600V, 200°C, W-1	UL 224	UL E352366
-TRIPLE WIRE	SHANGHAI XIANGXIANG ELECTRON CO LTD	TKW-B	130°C	UL2353	UL E308908

25	TABLE: Threaded Part Torque Test		N/A
Threaded partidentification	**Diameter of threadmm(mm)**	**Column number(I,II, or III)**	**Applied torque (Nm)**
/	/	/	/
Supplementary information:/			

26	Table: working voltage measurement	P

Location	RMS voltage(V)	Peak voltage(V)	Comments
T1 pin 1-A	180	310	--
T1 pin 2-A	214	480	Max. RMS voltage and max. Peak voltage
T1 pin 3-A	215	341	--
T1 pin 5-A	189	307	--
T1 pin 1-B	181	311	--
T1 pin 2-B	201	446	--
T1 pin 3-B	188	360	--
T1 pin 5-B	211	374	--
CY1	139	228	--

26	TABLE: Clearance And Creepage Distance Measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	**U_p (V)**	**U_{rms} (V)**	**Freq 1) (Hz)**	**Required* cl (mm)**	**cl (mm)**	**Required cr (mm)**	**cr (mm)**
L/N before fuse	420	250	60	2.4	>3.0	2.5	>3.0
Trace under fuse	420	250	60	2.4	>3.0	2.5	>3.0
CY1 trace under PCB	420	250	60	2.4	>3.0	2.5	>3.0
Primary circuit to accessible part	420	250	39.8	4.5	>5.0	4.8	>5.0
Primary circuit to secondary circuit	420	250	60	4.5	>6.0	4.8	>6.0
Transformer primary winding to secondary winding/pin	520	265	39.8	5.5	>7.0	6.0	>7.0

Transformer core to secondary winding/pin	520	265	39.8	5.5	>7.0	6.0	>7.0

Supplementary information:

1. BI: Basic insulation; SI: Supplementary insulation; RI: reinforced insulation.
2. If no specified, the worst condition was considered.
3. The core of T1 is considered as primary live part.
4. If no specified, the worst condition was considered.

26.2 TEST A	**TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION**	N/A
Test with three special prepared specimens with uninsulated wires, without potting or impregnation		--

cycles with 2 x working voltage between pri / sec	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25°C	2 hour 0 °C	1 hour 25 °C	--
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

26.2 TEST B	**TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION**	N/A

Test with three specially prepared specimens with potting or impregnation (P1)					
cycles with 2 x working voltage between pri / sec	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C	1 hour 25 °C	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

26.2 TEST C	**TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION**				N/A
Test with three specially prepared specimens with potting (only dti is required)					
cycles with 2 x working voltage between pri / sec	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C	1 hour 25 °C	
1.					
2.					
3.					
4.					
5.					
6.					
7.					

8.					
9.					
10.					

Annex U	**U.5.1 THERMAL ENDURANCE TEST**													
Type ref.														
Rated PRI-Voltage														
Rated SEC-Voltage														
Material of Winding														
Material of bobbin														
Material of resin														
Material of potting														
Material of foil														
Components removed for test														
Tw														
S														
Objective test duration (days)														
Theoretical test temperature														
Sample	1		2		3		4		5		6		7	
Winding	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC
Start – Rk														

After 4 h – Rw														
After 4 h – winding temperature														
After 4 h - oven temperature														
After 24 h – Rw														
After 24 h – winding temperature														
After 24 h - oven temperature														
Final test period (days)														
Output voltage (11.1) under load														
Insulating resistance														
High voltage test (35% of the values in Table 8.a														

Annex U	**U.5.2 The use of another constant S other than 4500 in tw tests Test1: 10 days**
Type ref.	
Rated PRI-Voltage	
Rated SEC-Voltage	
Material of	

Winding														
Material of bobbin														
Material of resin														
Material of potting														
Material of foil														
Components removed for test														
Tw														
S														
Objective test duration (days)														
Theoretical test temperature														
Sample	1		2		3		4		5		6		7	
Winding	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC
Start – Rk														
After 4 h – Rw														
After 4 h – winding temperature														
After 4 h - oven temperature														
After 24 h – Rw														
After 24 h – winding temperature														
After 24 h - oven temperature														

Final test period (days)							
Output voltage (11.1) under load							
Insulating resistance							
High voltage test (35% of the values in Table 8.a							

27	TABLE: RESISTANCE TO HEAT AND FIRE - GLOW WIRE TESTS							N/A
OBJECT/PART NO.JMATERIAL	MANUFACTURER/TRADE MARK	GLOW WIRE TEST (GWT):(° C)						VERDICT
		550	650		750		850	
			Te	Ti	Te	Ti		
--	--	--	--	--	--	--	--	N/A
--	--	--	--	--	--	--	--	N/A
Object/Part No./Material	Manufacturer/trademark	Glow-wire flammability index(GWFI).°C				GW ignition temp(GWIT).°C		Verdict
--	--	--	--	--	--	--	--	--
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No)								N/A
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)?								N/A
Ignition of the specified layer placed underneath the test specimen (Yes/No)								N/A
Supplementary information:(or applicable) for attended appliances.550 °C GWT not relevant HBF. The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant(or applicable) to parts of material classified at least HB40 or if relevant								

Annex H	TABLE: Electronic circuit	P

Ambient temperature T_{amb} (°C) :						See below	—
Power source for EUT: Manufacturer, model/type, outputrating :						See page 2	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
BD1	SC	264	1s	F1	0.352→0	Fuse F1 opened immediately, no hazard.	
U2 pin 1-6	SC	264	1s	F1	0.352→0	Fuse F1 opened immediately, U2 damaged, no hazard.	
Supplementary information:							
1) SC: short circuit, OL: overload, OC: open circuit; CD: Components damaged. 2) The Hi-pot test conducted successfully after the completion of fault condition test. 3) # means fusible resistor FR1 repeated ten times for the test and same results obtained.							

Annex H	**TABLE: Electronic circuit**						P
Ambient temperature T_{amb} (°C) :						25℃	—
Power source for EUT: Manufacturer, model/type, outputrating :						See page 2	—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Output	SC	264	10min	F1	0.062 to 0.025 to 0	Unit shut down immediately after shortcircuit, No damaged, no hazard.	
T1 pin 2-6	SC	264	10min	F1	0.062→0	Unit shut down immediately after shortcircuit, No damaged, no hazard.	
Supplementary information:							
1) SC: short circuit, OL: overload, OC: open circuit; CD: Components damaged. 2) The Hi-pot test conducted successfully after the completion of fault condition test. 3) # means fusible resistor FR1 repeated ten times for the test and same results obtained.							

Photo documentation

☑ front

☐ rear

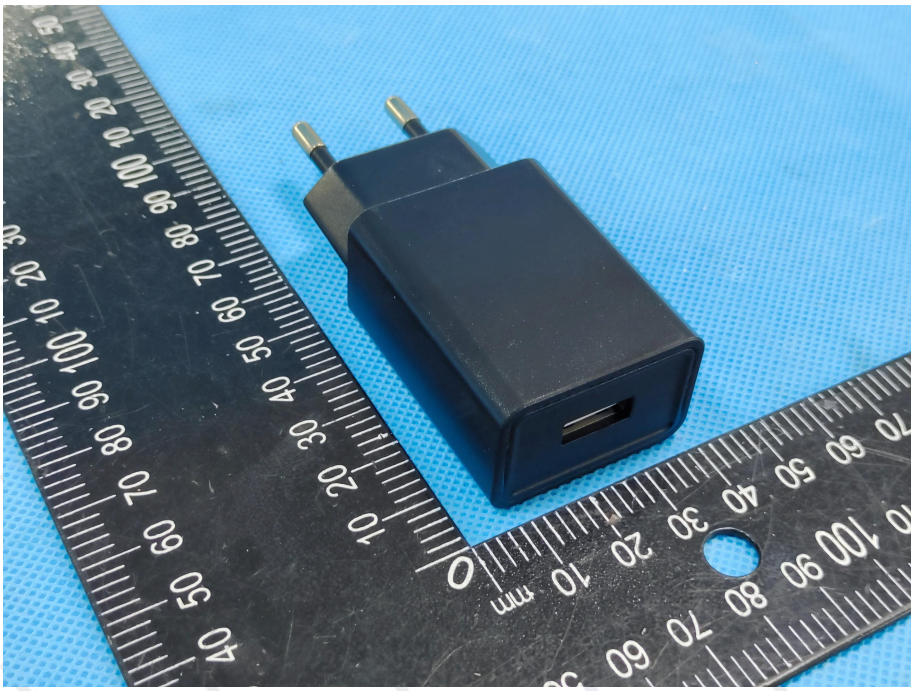
☐ right side

☐ left side

☐ top

☐ bottom

☐ internal



☐ front

☑ rear

☐ right side

☐ left side

☐ top

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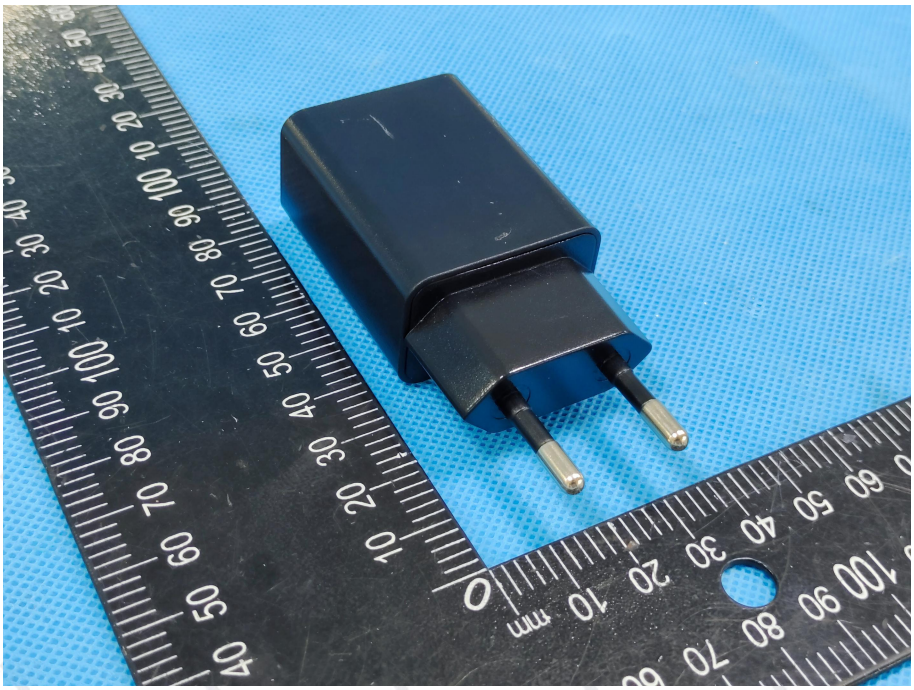

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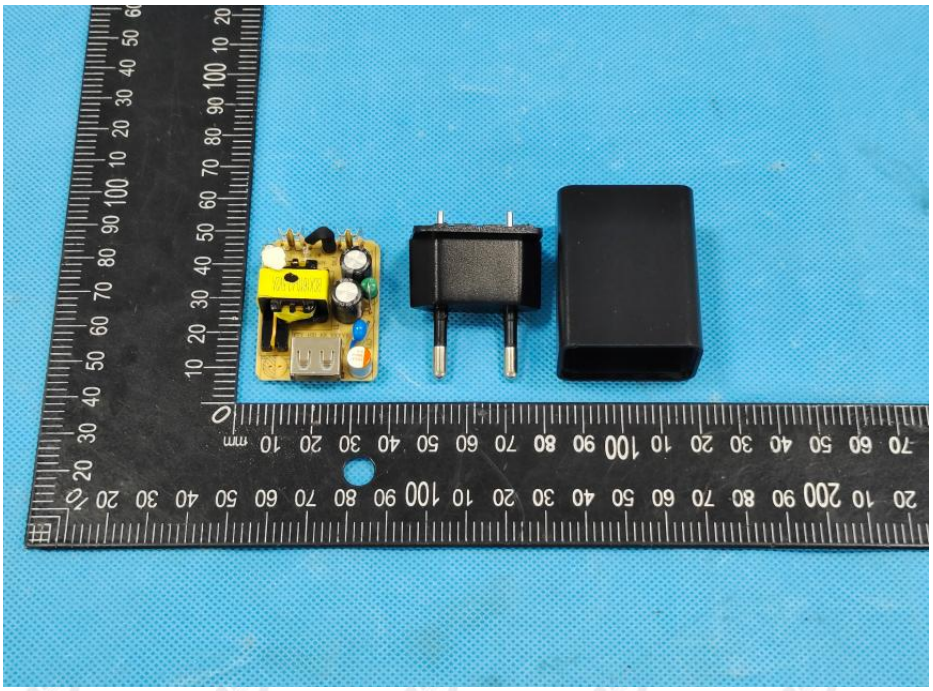

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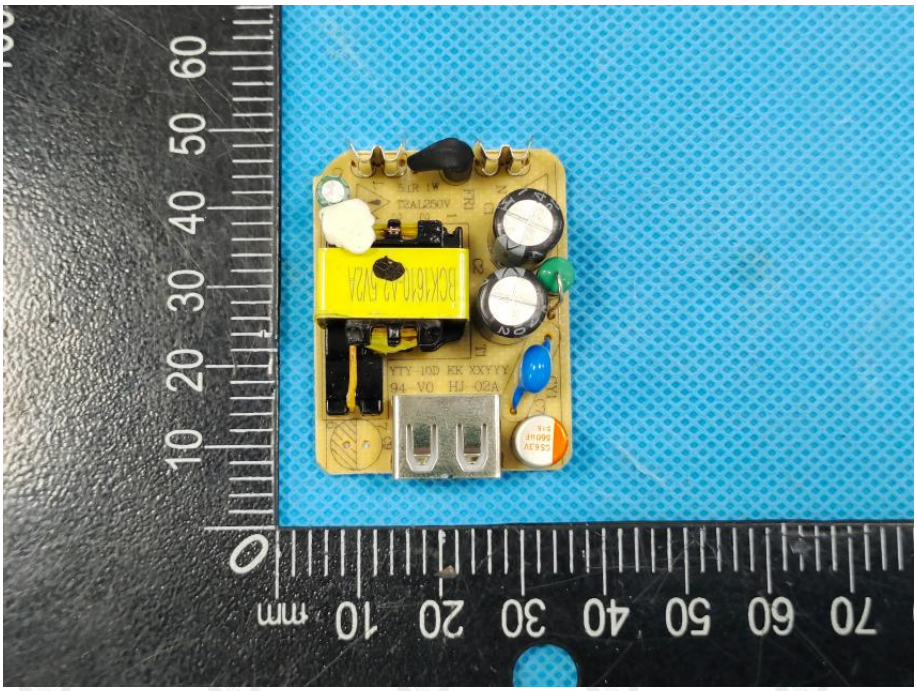

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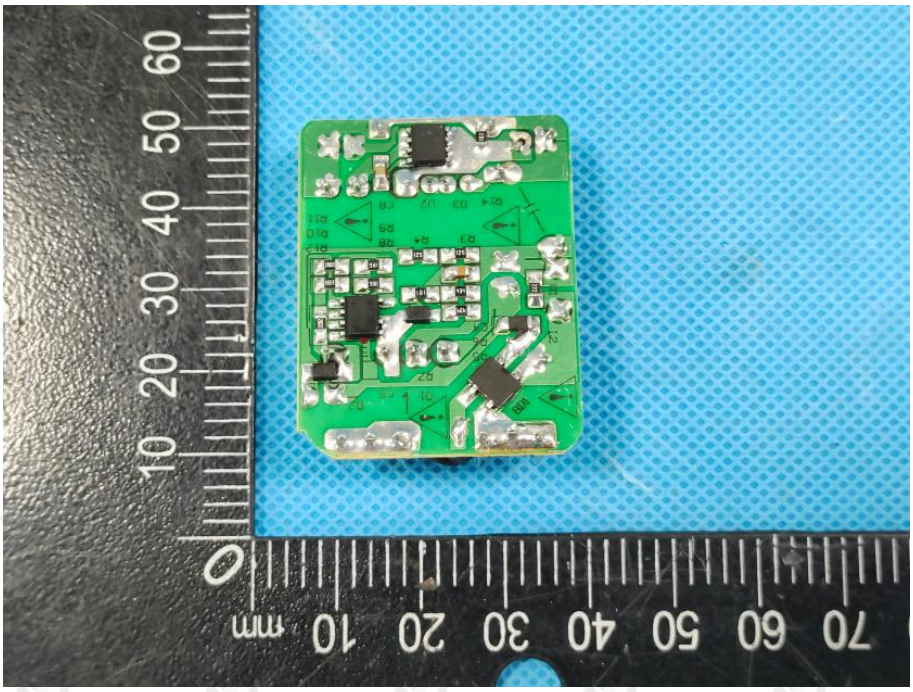

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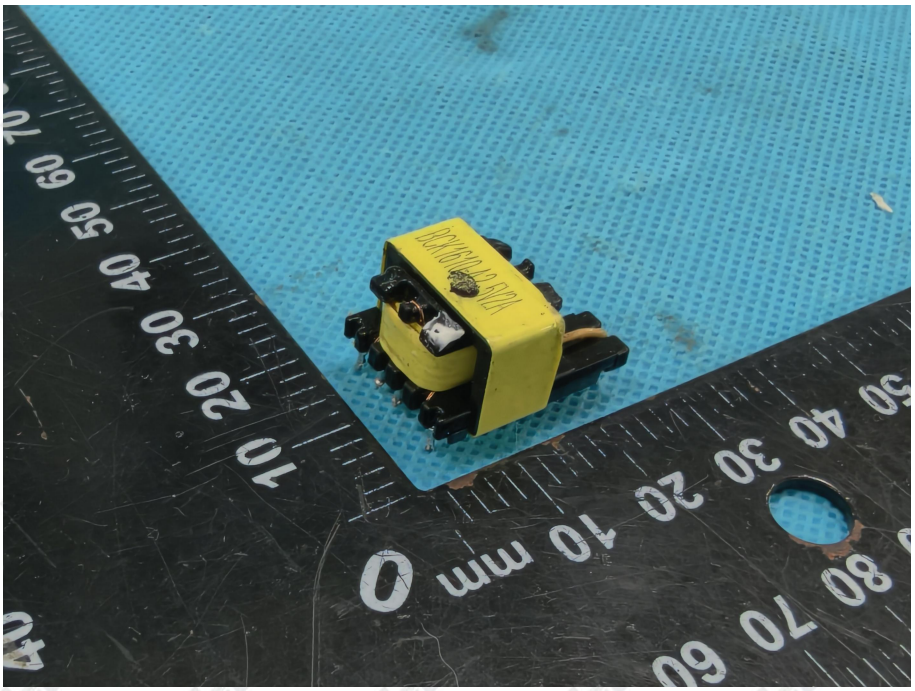

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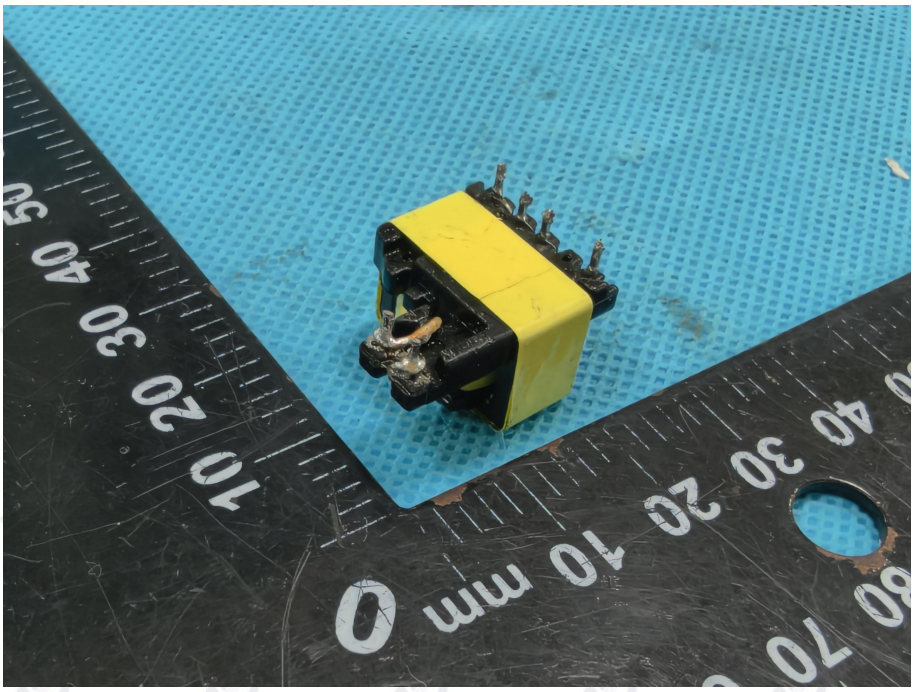

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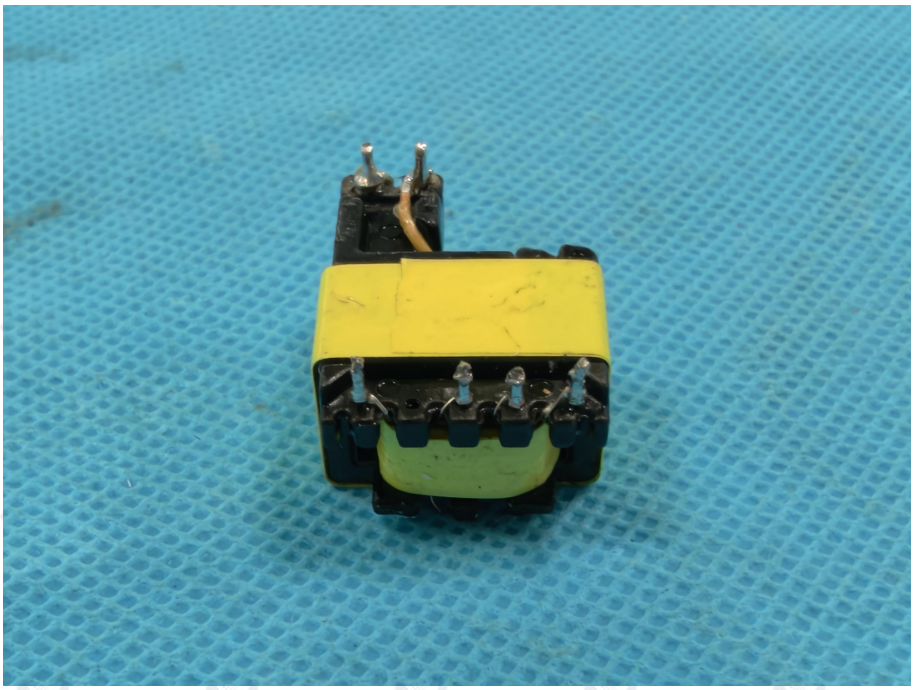

*** End of Report ***

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