



TEST REPORT

Reference No	: 4	WTX22X12243522S
Applicant	: 3	GlobTek, Inc.
Address	The.	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer	N. TEN	The same as above
Address	_+	The same as above
Product Name	: <	ITE Power supply
Model No	٠:	GT*96300-*****, GT*91120-*****
		(see general product information for model designation)
Test specification	: <	IEC 61558-2-16:2021 used in conjunction with IEC 61558-1:

2017 +

Include deviations for Australia and New Zealand

Safety of power transformers, power supplies, reactors and similar

products for supply voltages up to 1100 V

Part 2: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units

Date of Receipt sample..... 2023-03-13

Date of Test..... 2023-03-13 to 2023-03-31

Date of Issue..... 2023-04-22

Test Report Form No......: WTX IEC61558 2-16 2021A

Test Result.....: **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

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Tested by:	Approved by:
John Zhong	tentou
John Zhong	Harvid Wei

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Test item description	ITE POWER S	SUPPLY		
Trademark	GlobTek	Inc. whit white will the set the		
	GT*96300-*****, GT*91120-***** (see general product information for model designation)			
Rating(s):				
Whether parts of tests for the product ☐ Yes ☐ No If Yes, list the related test items and lab inf Test items: Lab information:		contracted to other labs:		
Summary of testing:				
Tests performed (name of test and to LEC 61558-2-16:2021 LEC 61558-1:2017 LEC 61558-1:2018+A1:2020+A2:205/NZS 61558 2 16:2022		Testing location: Waltek Testing Group (Shenzhen) Co., Ltd. Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China		

Summary of compliance with National Differences:

The submitted samples were found to comply with

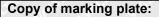
List of countries addressed: AU

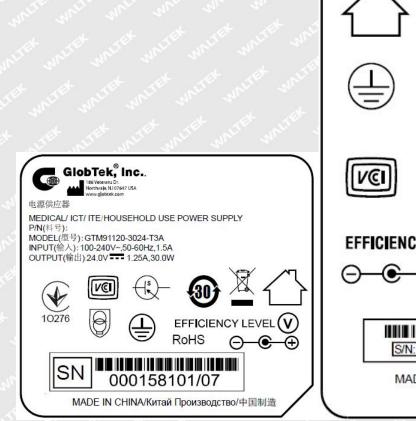
the requirements of above specification.

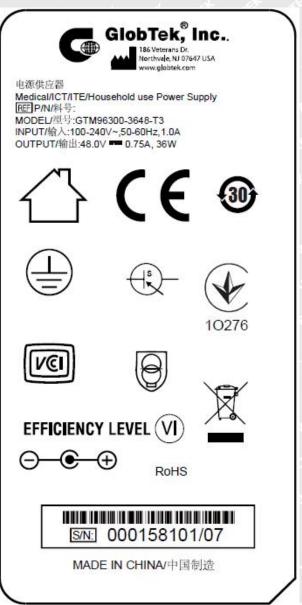
AU=Australia

The product fulfils the requirements of Australia and New Zealand National Differences











Toet itom	particulars	
rest item	particulars	

Protection against electric shock.....: Class I (model: GTM96300-2307.5-2.5-T3)

Class II (model: GTM96300-3648-T2)

Supply Connection...... Portable equipment

......

Possible test case verdicts:

- test case does not apply to the test object...... N/A (not applicable)

General remarks:

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

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(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.

WATER ER



General product information:

Product covered by this report is ITE power supply module.

Desktop power supplies are provided with suitable external enclosure. The top and bottom parts of the enclosure are ultrasonic welded.

The unit is approved for TN mains star connections. The unit provides internally two fuses.

The power supplies are rated class I or class II. Open frame and encapsulated class I power supplies shall be properly bonded to the main protective bonding termination in the end product.

All the types are designed for continuous operation.

The model series GT*96300-****** have same enclosure with smooth surface or groove surface and PCB Layout size, The model series GT*91120-***** have same enclosure with groove surface and PCB Layout size. The transformer with EE22 core used in GT*96300-******, GT*91120-****** have the same primary windings but different with secondary windings and constructions.

The products are not intended to be used in maximum ambient temperature exceed of 40 °C

Model Differences:

GT*96300-***** and GT*91120-*****

- 1. The 1st "*" part can be 'M' or '-' or 'H' for market identification and not related to safety.
- 2. The 2nd "*" denotes the rated output wattage designation, which can be "01" to "36", with interval of 1.
- 3. The 3rd "*" denotes the standard rated output voltage designation, which can be "07.5", "10.5", "14.5", "19.5", "24", "36", "48", "54" or "56".
- 4. The 4th *"is optional deviation, subtracted from standard output voltage, which can be "-0.01" to "-11.9" with interval of 0 01 or blank to indicate no voltage different.
- 5. The 3rd "*" and 4th "*" together denote the output voltage, with a range of 5-56 volts.
- 6. The 5th "*" = -T2 means desktop class II with C8 AC inlet
 - = -T2A means desktop class II with C18 AC inlet
 - = -T3 means desktop class I or class II with functional earth with C14 AC inlet
 - = -T3A means desktop class I or class II with functional earth with C6 AC inlet
 - = -R2 means hybrid desktop housing class II with C8 AC inlet.
 - = -R3A means hybrid desktop housing class I or class II with functional earth with C6 AC

inlet

- = -F means Open Frame class I or class II with functional earth
- = -FW means Open Frame class II
- = -P2 means Encapsulated class II
- = -P3 means Encapsulated class I or class II with functional earth
- 7. The 6th "*" = Blank or -AP or -PP or -SP
- –AP (with baby board) stands for Active POE (full IEEE compliant)
- -PP (no baby board) stands for Passive POE
- -SP (no baby board) stands for Simple POE
- 8. The last * denote any six character = 0-9 or A-Z or ()[] or or blank for marketing purposes.

Ratings:

When The 6th "*" is blank:

GT*96300-*****, Input: 100-240V~, 50-60Hz, 1.0A, Output: 5-48Vdc, Max. 4.5A, Max. 36W

GT*91120-*****, Input: 100-240V~, 50-60Hz, 1.5A, Output: 5-48Vdc, Max. 4A, Max. 30W

When The 6th "*" is -AP or -PP or -SP

GT*96300-*****, Input: 100-240V~, 50-60Hz, 1.0A, Output: 18-56Vdc, Max. 2.0A, Max. 36W

Model rating list:

GT*96300-***-T2/T2A/T3/T3A/R2/R3A* Desktop models

Model	Rated output voltage range (Vdc)	Max. rated output current (A)	Max. rated output power (W)
GT*96300-*07.5*- T2/T2A/T3/T3A/R2/R3A*	5-7.5Vdc	4.5	22.5
GT*96300-*10.5*- T2/T2A/T3/T3A/R2/R3A*	7.6-9Vdc	3.94	30



٣,	GT*96300-*10.5*- T2/T2A/T3/T3A/R2/R3A*	9.1-10.5Vdc	3.95	36
	GT*96300-*14.5*- T2/T2A/T3/T3A/R2/R3A*	10.6-14.5Vdc	3.39	36
	GT*96300-*19.5*- T2/T2A/T3/T3A/R2/R3A*	14.6-19.5Vdc	2.46	36
	GT*96300-*24*- T2/T2A/T3/T3A/R2/R3A*	19.6-24Vdc	1.83	36
	GT*96300-*36*- T2/T2A/T3/T3A/R2/R3A*	24.1-36Vdc	1.49	36
	GT*96300-*48*- T2/T2A/T3/T3A/R2/R3A*	36.1-48Vdc	0.99	36

GT*96300-***-T2/T2A/T3/T3A/R2/R3A-AP/PP/SP*

Model	Rated output voltage range (Vdc)	Max. rated output current (A)	Max. rated output power (W)
GT*96300-*19.5-1.5- T2/T2A/T3/T3A/R2/R3A- AP/PP/SP*	18Vdc	ret united	36
GT*96300-*19.5-1.5- T2/T2A/T3/T3A/R2/R3A- AP/PP/SP*	24Vdc	1.5	36
GT*96300-*19.5-1.5- T2/T2A/T3/T3A/R2/R3A- AP/PP/SP*	36Vdc	whitek alitek an	36
GT*96300-*19.5-1.5- T2/T2A/T3/T3A/R2/R3A- AP/PP/SP*	48Vdc	0.75	36
GT*96300-*19.5-1.5- T2/T2A/T3/T3A/R2/R3A- AP/PP/SP*	54Vdc	0.66	36
GT*96300-*19.5-1.5- T2/T2A/T3/T3A/R2/R3A- AP/PP/SP*	56Vdc	0.64	36

GT*91120-***-T2/T3A/F/FW/P2/P3* External/Hybird desktop or Open Frame or Encapsulated

	Model	Rated output voltage range (Vdc)	Max. rated output current (A)	Max. rated output power (W)
	GT*91120-*07.5*- T2/T3A/F/FW/P2/P3*	5-7.5Vdc	4	30
	GT*91120-*10.5*- T2/T3A/F/FW/P2/P3*	7.6-10.5Vdc	3.94	30
	GT*91120-*14.5*- T2/T3A/F/FW/P2/P3*	10.6-14.5Vdc	2.83	30
	GT*91120-*19.5*- T2/T3A/F/FW/P2/P3*	14.6-19.5Vdc	2 1	30
	GT*91120-*24*- T2/T3A/F/FW/P2/P3*	19.6-24Vdc	1.6	30
	GT*91120-*36*- T2/T3A/F/FW/P2/P3*	24.1-36Vdc	1.25	30
in in	GT*91120-*48*- T2/T3A/F/FW/P2/P3*	36.1-48Vdc	0.83	30

Referen

nce I	No.: WTX22X12243522S	Page 7 of 138		
T.	While Mur. Mur. Au	IEC 61558-2-16	alt alt alt so	MITE WAIT
•	Requirement + Test	the cities with the	Result - Remark	Verdict

Clause	Requirement + Test	Result - Remark	Verdict
8	MARKING AND OTHER INFORMATION	<u>. 15 15 55 5</u>	, and
8.1	Transformers shall be marked with the following (for symbols see Table 1):	NITER WITER WHITER	uni P
LIEK WAL	a) rated supply voltage(s) or the rated supply voltage range(s) (V)	100-240V ~	VIII P
A S	b) rated output voltage(s) (V or kV):	See marking label	P
No. C.	c) rated output (VA, kVA, or W)	t life nite animan	N/A
	d) rated output current(s) (A or mA)	See marking label	P
MILL	e) rated supply frequency(ies) (Hz)	50-60Hz	P
- ,-	f) rated power factor (if not 1)	00 00112	N/A
In The July	g) symbol AC for alternating current, or DC for direct current-output	The symbol for DC The symbol ∼ for AC	P
y nitey	h) relevant graphical symbols shown in Table 101 that indicate the kind of transformer in addition with the symbol for SMPS. (IEC 61558-2-16: 2021)	For example:	PULLE
	i) name or trademark of the manufacturer or responsible vendor	See marking label	Р
The a	j) model or type reference	See marking label	W P
LIEK N	k) vector group in accordance with IEC 60076-1 for three phase transformer	Not a 3-phase transformer.	N/A
	I) symbol for class II construction		Р
WALE	symbol for class III construction	met met un	N/A
- JEF	m) indication of the protection index IP	IPX0	Р
2112	n) rated maximum ambient temperature <i>t</i> a, if other than 25 °C	40°C	Р
mri m	o) rated minimum ambient temperature <i>ta</i> min, if lower than +10 °C and if a temperature sensitive device is used	0°C	Р
EK WYFLEK	p) duty cycle, if any, unless the operating time is limited by the construction of the transformer or corresponds to the operating conditions specified in the relevant part of IEC 61558-2.	SEE WALTER WALTER WALTER WAS	N/A
NALTEK S	q) symbol for overvoltage category, if other than OVC II	TEL TIER STIER WITH	N/A
Let .	r) transformers used with forced air cooling shall be marked with "AF" in m/s	in in the let	N/A
we my	s) Information from the manufacturer to the purchaser (data sheet)	See below.	Р
TEN WALTE	- short-circuit voltage (% rated supply voltage) for stationary transformers > 1000 VA	Et NIET MIET MITET W	N/A
t MITER	- electrical function of the transformer	The electrical input/output rating is shown.	P

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The state of	IEC 61558-2-16	the the the street	are are
Clause	Requirement + Test	Result - Remark	Verdic
WINCE THE	- All markings except those under i) and j) may be illustrated as QR Code according ISO/IEC 18004.	which which while and	P
16th 5	t) symbol indicating the maximum altitude of installation, if higher than 2 000 m	t to the let	Р
8.2	Marking for transformers IP00 or for associated transformers: type and trademark, instruction sheets	The Marin man was	N/A
8.3	Adjusted voltage easily and clearly discernible	No adjustable voltage.	N/A
8.4	For each tapping or winding: rated output voltage and rated output	Single output.	N/A
	necessary connections clearly indicated	me in in	N/A
8.5	For non-short-circuit proof transformers or non-inherently short-circuit proof transformers designed to be protected by fuses shall be marked:	Symbol provided on marking plate.	P
	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:	MUNITER MUTTER MUTTER ME	N/A
NATER N	For non-short-circuit proof transformers or non- inherently short-circuit proof transformers designed to be protected with protective devices other than fuses shall be marked:	united whited whited white	N/A
	Manufacturer's models or type reference of the protective device, and/or the ratings of the protective device	THE WILLEY WILLEY	N/A
WALTER	Instruction sheet for transformers with replaceable protective device (other than fuses) information with information about the replacement.	Whitek whitek whitek wh	N/A
8.6	Terminals for neutral: "N"	a at at st	Р
2. A.	Terminal for protective earth marked with earthing symbol		Р
in.	Identification of input terminals:	TEX INTER MATE MATE	N/A
y Let	Identification of output terminals:	a de de	N/A
'W.	Symbol for any point/terminal in connection with frame or core	A with any will	N/A
8.7	Indication for correct connection	LITER OLITER WALFER WALF	Р
8.8	Instruction sheet for type X, Y, Z attachments	in a st	N/A
8.9	Transformer for indoor use shall be marked with the relevant symbol.	Chart with with	Р
8.10	Symbol for Class II construction not confused with manufacturer's name or any other identification	MUNITER MULTER MULTER	P
WALTER	Class II transformer with parts to be mounted – delivered with all parts for class II after mounting.	No such parts.	N/A

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The state of	IEC 61558-2-16	THE THE LITE ALT	are are
Clause	Requirement + Test	Result - Remark	Verdict
Well.	Symbol for class II transformer placed on the part which provides class II.	Mulies white white	W P
8.11	Correct symbols:	NITE WALTE WALTE VI	Р
. LEF . J	Volts	V	d dP
· 1/1	Amperes	A (mA)	7) P
ek white	Volt amperes (or volt-amperes reactive for reactors)	VA or (VAR)	N/A
Let.	Watts	W	P.
11/2 1	Hertz	Hz	ant anP
Cath I	Input	PRI	N/A
10. 211	Output	SEC	N/A
TER SITE	Direct current	d.c. (DC) or ====	et P
-211	Neutral	N we we was	Р
y Cliff	Single-phase a.c.	THE THE	P. I
10,	Three-phase a.c.	3~ 11	N/A
CLITER OF	Three-phase and neutral a.c.	3N \sim	N/A
2	Power factor	cos φ	N/A
NITE WAL	Class II construction	Ontie un	TE WIT PUT
EK MALTE	Class III construction		N/A
WALTER.	Equipment of overvoltage category I	I stret mark	N/A
UNLIEK W	Equipment of overvoltage category II	II ist sight	TEL JALIE
ITEK WIT	Equipment of overvoltage category III	III at the state of	N/A
ek waliek	Equipment of overvoltage category IV	IV	N/A
NLTEK .	Fuse white white white	The gat	P.F
2, ,	Rated max. ambient temperature	ta	Р
NITE OF	Rated minimum ambient temperature	t _{amin}	N/A
4	Rated minimum temperature	t _{min}	N/A
LE MULTE	Frame or chassis (or core terminal)	THE WITTER WITTER	N/A
MALTER	Protective earth (ground)		PE
	IP number	IPX0	P-

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, " "L _{r,}	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
an Ch	Earth (ground or functional earth)	I we take the	N/A	
mri w	For indoor use only	Tunit unit u	n P	
ite il whi	To indicate that the appliance is intended to be usable up to the maximum altitude 3 000 m.	≤3000m	N/A	
Whitek Whitek	To indicate that the power supply unit shall not be used, if pins of the plug part are damaged.	\$	N/A	
```	Additional Symbols (IEC 61558-2-16:2021)	my my m	Р	
ner wh	SMPS (Switch mode power supply unit)		P	
TE WILL	SMPS incorporating a Fail-safe separating transformer	⊖ _F	N/A	
MULL	SMPS incorporating a Non-short-circuit-proof separating transformer	8	N/A	
ancie v	SMPS incorporating a Short-circuit-proof separating transformer (inherently or non-inherently)	0	N/A	
	SMPS incorporating a Fail-safe isolating transformer	⊖ _F	N/A	
TEX	SMPS incorporating a Non-short-circuit-proof isolating transformer		N/A	
uniter ou	SMPS incorporating a Short-circuit-proof isolating transformer (inherently or non-inherently)	0	N/A	
TEK MI	SMPS incorporating a Fail-safe safety isolating transformer	⊕ _F	N/A	
MULIER	SMPS incorporating a Non-short-circuit-proof safety isolating transformer	8	N/A	
WALTER O	SMPS incorporating a Short-circuit-proof safety isolating transformer (inherently or non-inherently)		MILTER MILE	
TLER AW	SMPS incorporating a Fail-safe auto-transformer	OF INTER MEDIES	N/A	
EK WALTE	SMPS incorporating a Non-short-circuit proof auto-transformer	South which with	N/A	
WALTER	SMPS incorporating a Short-circuit proof auto-transformer (inherently or non-inherently)	De la constantination	N/A	

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			7	
	A	•	A	K
N		Z		,

, " " , , , , , , , , , , , , , , , , ,	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
8.12	Number, letters or other visual means for different positions of regulating devices and switches	White white white	N/A		
mi n	OFF position indicated by number 0	ALTER WALTER WALTER	N/A		
TIEK MUT	Greater output, input etc. indicated by higher number	TEX STIER WITER WAY	N/A		
8.13	Marking not on screws or other easily removable parts	t itet litet mire	F P		
LIER	Marking clearly discernible (transformer ready for use)	The Mr. Mr. Mr.	P		
All A	Marking for terminals clearly discernible if necessary after removal of the cover	mer mer mer	N/A		
15. M	Marking for terminals: no confusion between input and output	HITE WALLE WALL ON	N/A		
The Will	Marking for interchangeable protective devices positioned adjacent to the base	ex white while whi	N/A		
WALTE	Marking for interchangeable protective devices clearly discernible after removal of cover and protective device	Whitek whitek white	N/A		
8.14	Visible information (symbols) shall be provided, when it is necessary to take special precautions for installation, transportation or use (in the catalogue, data sheet, instruction sheet or packaging):	Inches white white	TEK WITEK M		
EK WALTE	For non-inherently short-circuit proof transformers with non-self-resetting or non-replaceable devices and non-replaceable intentional weak parts:  The device cannot be reset or replaced after a short-circuit or an overload	White while while	N/A		
unitek w	For transformers generating a protective earth conductor current greater than 10 mA and are intended for permanent connection  The installation shall be made according to the wiring rules.	NITER WATER WATER W	N/A		
ek waltek	For stationary transformers exceeding 1000 VA: The short circuit voltage expressed as a percentage of the rated supply voltage	WALTER WALTER WALTER	N/A		
RUTER	The electrical function of the transformer	LET THE THE	out P		
NLTEX WIN	the limiting temperature of the winding under abnormal conditions which shall be respected when the transformer is built into an appliance as information for appliance design;	riet mure mures	N/A		
ie with	For transformers not designed for series and/or parallel connection with more than one output winding, not for series or parallel connection	MULTER MULTER MULT	N/A		

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The state of	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
WITER AL	For IP00-transformers the test of 27.2 is not performed. The result may be affected by the enclosure in the final application.	while while the priest	N/A	
8.15	Marking durable and easily legible	We want	Р	
8.16	Portable transformers with integrated plugs complying with EN 50075 (IEC plug type C), shall use the symbol IEC 60417-6352:2015-10.	TEX WHITE WHITE WHITE OF	P	
	The instruction sheet of the plug in transformer shall contain the following information, or equivalent:	TEX TEX STEX WITH	A MALTER	
	if the pins of the plug parts are damaged, the plug- in power supply shall be scrapped.	an an an a	Let.	
9 3/1	PROTECTION AGAINST ELECTRIC SHOCK	alie will will will	D N	
9.1	General		P	
* WALTER	Transformers shall be enclosed and provided with adequate protection against contact with hazardous-live-parts and shall have no risk of an electric shock from stored charge on capacitors.	THE WILL WILL WHE	PILTE	
9.2	Protection against contact with hazardous-live- parts	Tex : Tex sizes stress	Pit	
9.2.1	Determination of hazardous-live-parts	nr m m	Р	
9.2.1.1	A live part is not a hazardous-live-part if it is separated from the supply by double or reinforced insulation and the requirements of 9.2.1.2 or 9.2.1.3 are met when the transformer is supplied at rated supply voltage	THE WILLER WHITE WA	Р	
9.2.1.2	The voltage shall not exceed 35 V AC peak or 60 V ripple free DC.	Measured maximum output voltage: Max. 55.41Vd.c.	P	
9.2.1.3	Where the voltage exceeds 35 V (peak) AC or 60 V ripple free DC, the touch current shall not exceed:	L/N and accessible output terminal / enclosure: max.116Vac.	MALTER V	
det si	- for AC. 0,7 mA (peak)	Max. 0.538 mA	P	
74	- for DC. 2,0 mA	is min my my m	N/A	
WALTER	In addition, when a capacitor is connected to live parts:	- NIEK MITEK MITEK WIL	Pit	
9.2.1.3.1	The discharge shall not exceed 45 µC for stored voltages between 60 V and 15 kV, or	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N/A	
9.2.1.3.2	The energy of discharge shall not exceed 350 mJ for stored voltages exceeding 15 kV.	more mer me me	N/A	
9.2.2	Accessibility to hazardous-live-parts	ITER ALTER MITER MALTE	P	
EK WALTE	Transformers shall be constructed to provide adequate protection against accessibility to hazardous-live-parts.	of relief whilet whilet	EE P	
MITER	Class I and II transformers shall be so constructed and enclosed that there is adequate	The plastic enclosure considered as electrical and	P	
	protection against accidental contact with hazardous-live-parts.	mechanical enclosure.	THE STATE OF THE S	

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
NATE WALTER	For class I transformers, accessible parts shall be separated from hazardous-live-parts by at least basic insulation.	which was the state	Р	
iter mur er ter	Class II transformers shall be so constructed and enclosed that there is adequate protection against accessibility to basic insulation and to conductive parts separated from hazardous-live-parts by basic insulation only.	TEL WALTER WALTER WATER	P NI	
MITER	Only parts separated from hazardous-liveparts by double or reinforced insulation may be accessible	during the state with	N/A	
JEX .	Hazardous-live-parts shall not be accessible after removal of detachable parts except for	No detachable parts.	N/A	
1. 2.	- lamps having caps larger B9 and E10	the me me in	N/A	
TEK JI	- type D fuse holder	at the state state	N/A	
* White	IP00 transformers shall comply with the end product standard after incorporation in the end product.	THE MILE MITTER MALE	P	
outifek o	The insulating properties of lacquer, enamel, paper, cotton, oxide film on conductive parts and sealing compound shall not be considered as giving the required protection against accidental contact with hazardous-live-parts with the exception of fully insulated winding wire (FIW).	JULIER WHITER WHITER	P.K.	
	Shafts, handles, operating levers, knobs and the like shall not be hazardous-live-parts.	The state of the s	N/A	
LIEN	Compliance is checked by inspection and by the relevant tests of IEC 60529.	at let let let	P	
TEX.	Class II transformers and Class II parts of Class I construction are tested with the test pin (fig. 3)	must have any any	Р	
nur m	Hazardous live parts shall not be touchable by test finger (fig. 4) with the exception of fully insulated winding wire (FIW).	No live parts were touched.	TIEX MI	
ek whitek	for Class II transformers: conductive parts separated by basic insulation from hazardous live parts not touchable by test finger	while writes whites whi	P P	
MITEK.	hazardous live parts shall not be touchable with the test pin	No live parts were touched.	P	
9.2.3	Accessibility of non-hazardous live parts	my my my	Р	
nite wh	Non-hazardous live parts of the output circuit isolated from the input circuit by double or reinforced insulation may be accessible under the following conditions:	TEX MILIER WHITE MILIER	Р	
F MYTER	following conditions:  - for no-load output voltages not exceeding 35 V peak AC or 60 V ripple-free DC, both poles may be accessible;	The no load output voltage is 55.41Vdc	P	

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The state of	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
MULTER AN	- for no-load output voltages exceeding 35 V peak AC or 60 V ripple-free DC and not exceeding 250 V AC, only one of the poles may be accessible.	White white white was	N/A	
9.3	Protection against hazardous electrical discharge	a state state	P	
ek antiek	Transformers with primary supply plug: 1 s after the interruption of the supply the voltage between the pins do not exceed 35 V (peak) AC or 60 V ripple free DC	Max. 20VDC	ANT SANT	
ANDLIER S	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) AC. or 60 V ripple free DC.	united united united un	N/A	
	If the nominal capacitance is $\leq 0.1 \ \mu F$ – no test is conducted.	the man and an	N/A	
	- 10 times switch the supply source on and off, or use a special equipment for to switch off at the most unfavourable electrical angle	er white white whi	N/A	
The Thirt	If the measured voltage is > 60 V ripple free DC, the discharge must be $\leq$ 45 $\mu$ C.	THE THE THE	N/A	
10	CHANGE OF INPUT VOLTAGE SETTING	Write Will Mur M.	Р	
NITE WAL	Transformers with more than one rated supply voltage shall be so constructed that the voltage setting cannot be changed without the aid of a tool.	No such devices.	N/A	
ek walte	Transformers which can be set to different rated supply voltages:	Mile Mile Muliet	N/A	
WALTER	- The indication of voltage for which the transformer is set is discernible on the transformer.	MILITER MILITER MILITER W	N/A	
10.101	A wide range (e.g. 100 V AC to 240 V AC) of supply voltage is allowed (IEC 61558-2-16: 2021)	LIER MITER MITER MILE	MILL P	
16k 11	<ul> <li>if the output voltage does not exceed the rated output voltage</li> <li>if the no-load output voltage does not exceed</li> </ul>	at the test state	P	
	the limits of the output voltage deviation	m m m	Р	
11	OUTPUT VOLTAGE AND OUTPUT CURRENT UN	DER LOAD	until "Mati	
11.1	Difference from rated value (without rectifier; with rectifier):	With rectifier. (see appended table)	THE PL	
JUEL WA	a) inherently short-circuit proof transformers with one rated output voltage for the output voltage: AC ≤ 10%; DC ≤ 15%	and and other out	N/A	
IEK WALTE	b) inherently short-circuit proof transformers with more than one rated output voltage for the highest output voltage: AC≤10%; DC≤15%	at the state which	N/A	
MALTEX	c) inherently short-circuit proof transformers with more than one rated output voltage for the other output voltages: AC≤15%; DC≤20%	The street with the	N/A	

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, and	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
WILL.	d) other transformers for the output voltages: AC≤5%; DC≤10%	(see appended table)	Р	
11.2	If a transformer is marked with the rated output, the rated output voltage, the rated output current, and the rated power factor, these values shall be substantially in agreement with each other.	NATER WHITE WHITE WALLER W	P	
y whitey	If no rated output current is assigned to the transformer, the rated output current for the purpose of this specification can be calculated from the rated output and the rated output voltage.	t whitek whitek whitek whi	N/A	
12	NO-LOAD OUTPUT VOLTAGE (IEC 61558-2-16:2	021)	Р	
NITEH AIN	Remark: with rectifier measuring on both sides of the rectifier if they are accessible to the user	Input terminals of the rectifier are not accessible to user.	P	
12.101	The no load output voltage shall not exceed :	Tr. Mr. Mr. Mr.	Р	
ier write L	<ul> <li>For SMPS incorporating separating or auto- transformers: 1000V AC. or 1415 V ripple free DC</li> </ul>	Et whitet whitet wh	N/A	
MUE	- For SMPS including isolating transformers: 500 V AC. or 708 V ripple-free DC	White white white whi	N/A	
White A	- For SMPS including safety isolating transformers: 50 V AC. or 120 V ripple-free DC	Whitek Whiteh White White	un P	
	For independent SMPS incorporating separating transformers, isolating transformers or autotransformers: 50 V AC. or 120 V ripple-free DC	THE WALTER WALTER OF	N/A	
	For independent SMPS, this output voltage limitation applies even when output windings, not for interconnection, are connected in series	unite unite unite un	N/A	
The s	The requirement for series connection does not apply to associated or IP 00 SMPS	White whit will will	N/A	
12.202	The difference between no-load output voltage and the output voltage measured in clause 11 does not exceed the values of table 102	NUTER WALTE WALTE WALL	Р	
12.103	Unless otherwise specified by the manufacturer, SMPS shall be tested with 20 cm to 200 cm length of wire connected to the output terminals under the most unfavourable conditions. Twisted wires or cables rated in accordance with IEC 60227-5:2011 (type 60227 IEC 53) may be used. The cross sectional area of the conductors shall be determined in accordance with the rated output current of the SMPS, and the current density shall not exceed 5 A/mm² in normal use.	TIEL MUTEL MUTEL MUTEL	P	
13	SHORT-CIRCUIT VOLTAGE	at the state of the	N/A	
- 21g	The short-circuit voltage measured shall not deviate by more than 20 % from the value marked.	No marked.	N/A	
14	HEATING	t the the other with	Р	
14.1	General requirements		Р	

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic
14.1.1	Temperature-rise test		
14.1.1		71 7 7 7 T	P
TEK WILL	No excessive temperature in normal use  The manufacturer may choose the simulated load methods according to 14.1.2.1 or 14.1.2.2 instead of the direct load method that may be applied.	TEE WALE WALES	P
MULLE	Room temperature: rated ambient temperature ta <u>+</u> 5 °C	MINISTER WALTER WALTER	P
untie v	Type X, Y, Z attachments: 1 pull (5 N) to the connection windings	WALTER WALTER WALTER ON	N/A
liek an	Upri (V): 1,1 times rated supply voltage loaded with rated impedance – for independent transformers	264V (240 x 1.1)	nt P
EK WILTE VITEK	Upri (V): 1,1 times rated supply voltage: with I sec (A), measured with rated impedance and 1,0 times of the rated supply voltage for others than independent transformers	et milet milet milet	N/A
21/2	Max. temperature windings	(see appended table)	N/A
Set .	- Class A: 100 °C	at at let	N/A
11 2	- Class E: 115 °C	ner me me	N/A
ci ^{est} . N	- Class B: 120 °C	at all the ste	Р
4,	- Class F: 140 °C	2 My My	N/A
* NITE	- Class H: 165 °C	THE STATE OF THE S	N/A
	- other classes	Mr. Mr. M.	N/A
walter.	Temperature of external enclosures of stationary transformers:	WALTER WALTER WALTER OF	N/A
LIET 10	- bare metal: 65 °C	at let light is	N/A
	- metal covered by lac or varnish: 70 °C	VI AUT AU AU	N/A
ER WIT	- other material: 80 °C	Et The The State	N/A
MALIER	Temperature of external enclosure of stationary transformer 85 °C (not touchable with the IEC test finger)	unifek mitek mitek	N/A
MALTEK V	Temperature of external enclosures, handles, etc. of portable transformers:	itel street mares in	TEX PER
ALIEK MA	- continuously held parts of metal; 48 °C	M. 20.	N/A
	- continuously held parts of other material: 48 °C	LIER OLIER WILL WHILE	N/A
y .6	- not continuously held parts of metal: 60 °C		N/A
nur,	- not continuously held parts of other material: 80 °C	Plastic enclosure.	N. P.
where	Temperature of terminals for external conductors and terminals of switches 70 °C	No switch.	N/A

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IEK WITE	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdio	
WILLE	Temperature of internal and external wiring:	while while while whi	Р	
SUTER 1	- rubber: 65 °C	No rubber.	N/A	
	- PVC: 70 °C	Internal plug pin lead wire	Р	
ITER JAL	Temperature of parts where safety can be affected:	cet set stet with	N/A	
	- rubber: 75 °C	21/2 211 211	N/A	
antite.	- phenol-formaldehyde: 105 °C	t life life nite of	N/A	
٠,	- urea-formaldehyde: 85 °C	M. M. A.	N/A	
MALTE	- impregnated paper and fabric: 85 °C	LIER OLIER MILE MAL	N/A	
.t	- impregnated wood: 85 °C	The The The	N/A	
vr. m	- PVC, polystyrene and similar thermoplastic material: 65 °C	HIER WATER WALLE WALLE	N/A	

	- Tubbel. 05 C	NO TUDDET.	IN/A
21, 2	- PVC: 70 °C	Internal plug pin lead wire	Р
LIER WILL	Temperature of parts where safety can be affected:	let tet tiet stiet	N/A
	- rubber: 75 °C	1115 111 111 2	N/A
MILLE	- phenol-formaldehyde: 105 °C	t iter liter niter and	N/A
	- urea-formaldehyde: 85 °C	The The The	N/A
White a	- impregnated paper and fabric: 85 °C	CIEX SCIENT OLIVE MALL	N/A
.+	- impregnated wood: 85 °C	m m T	N/A
VII. OU	- PVC, polystyrene and similar thermoplastic material: 65 °C	Street White White White	N/A
LE WILLE	- varnished cambric: 75 °C	et the state when we	N/A
	Temperature rise of supports 85 °C	w. w.	Р
MULL	Temperature of printed boards:	UL approved PCB used, the limit is 130 °C	Р
Chillian I	- bonded with phenol-formaldehyde: 105 °C	LEK TEK TIEK WITER	N/A
2, ,	- melamine-formaldehyde: 105 °C	mr m. m.	N/A
LIER WILL	- phenol-furfural: 105 °C	ALL STEEL MITTER	N/A
ر	- polyester: 105 °C		N/A
	- bonded with epoxy: 140 °C	PCB rating: 130°C	Р
RLIEK	Electric strength between input and output windings (18.3, 1 min); test voltage (V)	TEX TEX STEX STEX	PIE
14.101	Winding temperature measured by thermocouples at the surface of the winding (IEC 61558-2-16: 2021)	WILL WILLY WILLEY WILLEY	P
at s	- if the internal frequencies is > 500Hz	, <u>,</u> , , , , , , , , , , , , , , , , ,	P
r 74	- the values of Table 2 for windings temperatures are reduced by 10°C	Class: 120-10=110° C	Р
14.102	SMPS shall be tested at 0,9 times and 1,1 times the rated supply voltage	WHITE WAITER WHITE WAL	Р
14.2	Application of 14.1 or 14.3 according to the insulation	n system	Р
14.2.1	Class of insulation system (classified materials according to IEC 60 085 and IEC 60 216)	Class B	Р
14.2.2	No classified material, or system but the measured temperature does not exceed the value of Class A	The many many many	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	NIET WILLER WILL WILL	N/A
14.3	Accelerated ageing test for undeclared class of insu	lation system	N/A

CET JULY	IEC 61558-2-16	A ST ST ST	cie ai
Clause	Requirement + Test	Result - Remark	Verdict
14.3.1	General Cycling test (10 cycles):	Measured transformer winding within the specified limit on normal heating test.	N/A
14.3.2	Heat run (temperature in table 4)	We will the total	N/A
14.3.3	Vibration test: 30 min; amplitude 0,35 mm; frequency range: 10 Hz, 55 Hz, 10 Hz	TER WHITE ANTIE WHITE A	N/A
14.3.4	Moisture treatment (48 h, 17.2)	t tet tet atte atter	N/A
14.3.5	Measurements and tests at the beginning and after each test:	of the text of	N/A
NITEK M	- deviation of the no-load input current, measured at the beginning of the test less than 30%	and with white	N/A
A 1	- insulation resistance acc. cl.18.1 and 18.2	L. M. M.	N/A
k lek	- electric strength, no breakdown (18.3 and 18.4); 2 min; test voltage 35% of specified value	EX WATER WATER WATER ON	N/A
MULLER O	- 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; frequency (Hz): 2 times rated frequency	White white white white	N/A
15	SHORT-CIRCUIT AND OVERLOAD PROTECTION	onli vinti	P
15.1	General requirements	The state of	P
15.1.1	Short circuit and overload test method	the write with the we	Р
WALTER.	Tests direct after 14.1 at the same ta and without changing position.	(see appended table)	P
INLTEK WI	Supply voltage between 0,9 times and 1,1 times of the rated supply voltage	264V (240 x 1.1) 90V (100 x 0.9)	P
JEK MI	Transformer with rectifier tests of 15.2 and 15.3 at the input and the output terminals of the rectifier.	et tet tet stiet	DETEKP
MULTER	Transformers with more than one output winding or tapping, all windings tested with normal load, the winding with the highest temperature is short circuited.	MULTER MULTER MULTER MUL	N/A
antie .	Wining protected inherently (15.2)	THE LIER SLIER WILL	N/A
NITEK WY	- Max. temperature of winding protected inherently (insulation class): 150°C (A); 165°C (E); 175°C (B); 190°C (F); 210°C (H)	LIET WILET WHILET	N/A
et de	Winding protected by protective device:	s at at at	P
WALTER.	- 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 6 (insulation class): 200 °C (A); 215 °C; (E); 225 °C (B); 240 °C (F); 260 °C (H)	MUNITER MULTER MULTER MULT	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
WALTER VI	- Test according 15.3.1: max. temperature of winding during the first hour, peak value (insulation class): 200 °C (A); 215 °C (E); 225 °C (B); 240 °C (F); 260 °C (H)	Protected, no high temperature	P
iter whi ex hites	- Test according 15.3.1: max. temperature of winding after first hour, peak value (insulation class): 175 °C (A); 190 °C (E); 200 °C (B); 215 °C (F); 235 °C (H)	TEX WHITEK WHITEK WHITE	Р
WALTER	- Test according 15.3.1: max. temperature of winding after first hour, arithmetic mean value (insulation class):150 °C (A); 165 °C (E); 175 °C (B); 190 °C (F); 210 °C (H)	WILLIER WALTER WATER	P anti-
nite wh	- Test according 15.3.5: max. temperature of winding (insulation class): 175 °C (A); 190 °C (E); 200 °C (B); 215 °C (F); 235 °C (H)	LIFE WILLER WILLER WIL	P N
- W.	Max. temperature of external enclosures (accessible by test finger) 105 °C	THE WILL MULT WILL	A PA
Murra	Max. temperature of insulation of wiring (rubber and PVC) 85 °C	WALTER WALTER WALTER	IIILL P
CLITER S	Temperature rise of supports 105 °C	let let telt .	P
15.1.2	Alternative short circuit and overload test method	are any and any	Р
riter _{van} t er ite	The manufacturer may choose to apply any of the following methods described in 14.1.2.1 and 14.1.2.2. These test procedures are according to IEC 60076-11:2004, 23.2.1 and 23.2.2	tet of horized while	P
15.2	Inherently short-circuit proof transformers	The me we	N/A
WALTER	Inherently short-circuit proof transformers are tested by short-circuiting the output windings until steady-state conditions are reached	Whitek whitek whitek	N/A
15.3	Non-inherently short-circuit proof transformers	At Att of the	JE JP
5 - S	Non-inherently short-circuit proof transformers are tested as follows	the me me me	Р
15.3.1	Output terminals short-circuited: protection device operates, test at 0,9 1,1 of the rated supply voltage	TEX LIEX NUTER	P P
15.3.2	If protected by a fuse accordance with either IEC 60 269-2 or IEC 60 269-3, or a technical equivalent fuse, the transformer is loaded as in table 6.	MUNITER MULTER MULTER	N/A
15.3.3	If protected by a fuse accordance with either IEC 60 127(all parts) or ISO 8820(all parts), or a technical equivalent fuse, the transformer is loaded with the current as specified for the longest pre arcing time.	Liter White White White	N/A
	If protected by miniature fuses in accordance to IEC 60127(all parts), 1,5 times of the rated fuse, until steady state condition (in addition)	WALTER WALTER WALTER.	muric muric

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			7	9
1	A		A	r
M.		X	ı	,
				4

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Clause	Requirement + Test	Result - Remark	Verdict		
15.3.4	If protected by a circuit-breaker according to IEC 60 898(all parts) the transformer is loaded with a current equal to 1,45 times the value of the circuit-breaker rated current	NIET WHITE WHITE	N/A		
15.3.5	If other overload protection than a fuse (IEC 60 127) or a circuit-breaker (IEC 60 269) test with 0,95 times of operating current	Protected by electronic circuit	P		
Whitek v	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 5	White white white white	N/A		
15.4	For non-short-circuit proof transformers: temperature rises values in table 5, tests as indicated in 15.3	SLIER MALTER MALIER WALTER	N/A		
15.5	For fail-safe transformers:	et the the attern	N/A		
15.5.1	Three additional new specimens are used	m. m. m.	,		
- WITE	- Upri (V): 1,1 times rated supply voltage:	TER JER NITER INT	( 1 m		
	- Isec (A): 1,5 times rated output current:	The	-+		
Willey OF	- time until steady-state conditions t1 (h):	TEX STEE OUTE SOUTH	with.		
<del></del>	- time until failure t2 (h): t1; 5 h	1 2 1 X			
15.5.2	During the test:	TEX COUNTY OF	N/A		
cit cit	- no flames, molten material, etc.	- 1 L St	N/A		
"he	- temperature of enclosure 175 °C	antite antite mate and	N/A		
- LEX	- temperature of plywood support 125 °C	L A St A	N/A		
me.	After the test:	with white with white	N/A		
UNITER UNIT	- electric strength (Cl. 18, 1 min, test voltage: 35% of specified value); no flashover or breakdown for primary-to-secondary only for safety isolating, isolating and separating transformer and for primary-to-body for all kinds of transformer	NITER WHITER WHITER WHITER	N/A		
MALTE	- bare hazardous live parts not accessible by test finger through holes of enclosure	MILIER WILLER WHITE WILL	N/A		
15.101	Electronic circuits shall be so designed and applied that a fault condition within the SMPS will not cause electric shock, or fire hazard, and unintentional operation of the appliance will not impair safety.	(Details see Annex H)	PET NITER		
16	MECHANICAL STRENGTH	- In 2, 2	P		
16.1	General	et alter miter write wh	Р		
- 6	After tests of 16.2, 16.3 and 16.4	211. 21. 2	- P		
WE.	- no damage	LIFE SLIFE MILE WILL	υP		

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Clause	Requirement + Test	Result - Remark	Verdict	
MULTE.	- hazardous live parts not accessible by test pin according to 9.2.2	white white will	Р	
aris a	- no damage for insulating barriers	ALTER INTIES WALTER WALTER	Р	
1th 5	- handles, levers, etc. have not moved on shafts	1 1 1 11	N/A	
16.2	Stationary transformers	ite mit mit mit	N/A	
EK JEK	3 blows, impact energy 0,5 ±0,05 J	e at at 18th is	N/A	
16.3	Portable transformers (except of direct plug in transformers)	mer me me m	Р	
2015 1	For portable transformers: 100 falls, 25 mm	with white with white	J ^{II} P	
16.4	Portable transformers provided with integral pins for of the fixed wiring	introduction in socket outlets	N/A	
16.4.1	General requirements	The state of	N/A	
t uni	Portable transformers with integral pins for introduction into fixed socket-outlets shall have adequate mechanical strength.	et mile while while w	N/A	
MUTER A	Plug in power supply units with integral main plug complying with IEC TR 60083, without plugs complying with EN 50075 (IEC plug type C) shall be tested:	UNITER WHITER WHITER	N/A	
NITER WAY	a) plug-in transformers: tumbling barrel test: 50 times, x ≤ 250 g; 25 times, x > 250 g	THE WALTER WALTER	N/A	
er Je	b) torque test of the plug pins with 0,4 Nm	the left	N/A	
24,	c) pull force according to table 7 for each pin	and with the m	N/A	
16.4.2	Portable transformers provided with integral pins according to EN 50075 (IEC plug type C) for introduction in socket-outlets of the fixed wiring	whitek whitek whitek white	N/A	
Mrtiter M	a) The test is carried in a tumbling barrel as described in IEC 60068-2-31.	NITER WHITE WHITE WHITE	N/A	
ITER WILL	- 1000 times: x ≤ 100 g; 500 times: 100 g< x ≤ 200 g; 200 times: g< 100 x	TEX MILITER MILITER WILLIER W	N/A	
y whiteh	- pull force according to IEC 60884-1:2002, 24.10 for each pin	LITER MITER WALTER	N/A	
, et	b) torque test of the plug pins with 0,4 Nm	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N/A	
16.5	Additional requirements for transformers to be used applications	in vehicles and railway	N/A	
16.5.1	Transformers to be used in vehicles and railway app	lications	N/A	
TEK JUNITE	An test according IEC 61373 shall be performed with conditions of Table 8 and Table 9 and the frequency values depending on the weight of the specimen are defined in Table 10	ex muritex muritex muritex on	N/A	
16.5.2	Test requirements for the transportation of transform	ners	N/A	

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Clause	Requirement + Test	Result - Remark	Verdict
MUSTER AN	Shock and vibration testing requirements for transformers subjected to while being transported per IEC 60721-3-2 with conditions according to Table 11 and Figure 8.	Whitek Mulich Mulich Mulich	N/A
17	PROTECTION AGAINST HARMFUL INGRESS OF	WATER AND MOISTURE	P
17.1	Degree of protection (IP code marked on the transfe	ormer)	Р
17.1.1	General requirements	IPX0	P
Lifet	Test according to 17.1.2 and for other IP ratings test according to IEC 60 529:	THE THE THE LIT	P
TEXT O	- stable operating temperature before starting the test for < IPX8	much much much and	N/A
it in	- the water for the test shall be at a temperature of 15±10°C	With Marie Marie Wall	N/A
" "her	transformer mounted and wired as in normal use	EK WALTER WALTE WALTE W	N/A
MULTER	- fixed transformer mounted as in normal use by the tests according to 17.1.2 A to J	Whitek Mulies Mulies and	N/A
UNLTEK W	portable transformers placed in the most unfavourable position and wired as in normal use	WALTER WALTER WALTER WALTE	N/A
LIE WAL	- glands tightened with a torque equal to two-thirds of 25.6	MILIE WALTE.	N/A
A CALTE	After the tests:	THE THE	N/A
~ .	- dielectric strength test according to 18.3	mr m. m. n.	N/A
antie.	Inspection:	TER LIER SLIER WIL	N/A
nijek wri	a) no access with hazardous-live-parts or hazardous moving parts with the relevant test probe according to the test described in 17.1.2, items A 1), B 1) and C 1). The test finger may penetrate but the stop face (ø 50 x 20 mm) shall not pass through the openings for the number 2 of the first characteristic numeral	Whitek whitek whitek whitek	N/A
WALTER V	b) no entry into the transformer enclosure by the relevant test probe for solid-object-proof transformers according to test described in 17.1.2, items A 2) and B 2). The protection is satisfactory if the full diameter of the probe does not pass through any openings;	MULTER WALTER WALTER WALTE	N/A
	c) no deposit of talcum powder in dust-proof transformers	HELL MILL MILL MILL	N/A
ALC.	d) no deposit of talcum powder inside dust-tight transformers	SEE WALLE WALLE WHILL W	N/A
100			- 1 P

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Clause	Requirement + Test	Result - Remark	Verdict
JUNITEK JU	e) 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 reduction of creepage distances	MILIER WALTER WAITER W	N/A
LIFE WAY	f) no accumulation of water inside the enclosures of drip-proof, spray-proof, splash-proof and jet-proof transformers, which may impair safety	TEX WALTER WALTER WAL	N/A
	g) no trace of water entered in any part of water- tight transformer	et unifet unifet unife	N/A
17.1.2	Tests on transformers with enclosure:	at at at	Ret Per
711. 1	A) Solid-object-proof transformers:	WHITE WILL WILL	_{лл} Ь
IN ^{LTEK} OI	- 2 IP2X test finger (IEC 60 529) and test pin (fig. 3)	CLIER MALIER MALIER OF	LIER WILL P
at A	- rigid sphere	. + .+ .	et et P
Me	B) Solid-object-proof transformers:	ies white white har	N/A
the Test	- IP3X, wire 2,5 mm; force 3 N	at the set	N/A
211	- IP4X, wire 1 mm; force 1 N	WALL AND AND	N/A
CIER .	C) Dust-proof transformers, IP5X;	of let let	N/A
7 Ely -	1) At every possible point with a probe according to test probe D of B 1).	anti anti anti a	N/A
Vr. Mr.	2) dust chamber according to IEC 60 529, fig. 2:	White wh	N/A
Eth JE	a) transformer has operating temperature	#	N/A
- 70x	b) transformer, still operating, is placed in the dust chamber	while with white	N/A
Mr.	c) the door of the dust chamber is closed	Will Will Mill	N/A
7.6×	d) fan/blower is switched on	The state of	N/A
mr m	e) after 1 min transformer is switched off for cooling time of 3 h	NITE WHILE WALL W	N/A
ite Mur	D) Dust-tight transformers (IP6X) test according with C)	TER MULTER WALTER MAL	N/A
WALTE	E) Drip-proof transformers (IPX1) test according to fig. 3 of IEC 60 529 for 10 min	MILIER WALTER WALTER	N/A
White V	F) Rain-proof transformers (IPX2) test according to fig. 3 of IEC 60 529 for 10 min in operation, any angle up to 15°	MALTER WALTER WALTER	N/A
	G) 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
* WALTER	H) 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 )	MALIER WALTER MALIER	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
ANGEL TELE	Jet-proof transformer (IPX5) test according to fig. 6 of IEC 60 529 (nozzle 6,3mm)	White white white	N/A	
ani al	J) Powerful Jet-proof transformer (IPX6) test according to fig. 6 of IEC 60 529 (nozzle 12 mm)	With Mutter Author	N/A	
	K) Watertight transformers (IPX7)	The August August	N/A	
ER WITE	L) Pressure watertight transformers (IPX8)	t let offt soft	N/A	
17.2	After moisture test (48 h for IP20, 168 h for other transformers):	48h	P	
TEX .	- insulation resistance and electric strength (Cl. 18)	mer and an	P	
18	INSULATION RESISTANCE AND ELECTRIC STR	ENGTH	P	
18.2	Insulation resistance between:	a state	d P	
	- live parts and body for basic insulation $\geqslant 2~\text{M}\Omega$	in mir mir mur	N/A	
MILIER	- live parts and body for reinforced insulation $\geqslant$ 7 $M\Omega$	>100ΜΩ	WILL BE	
WALTER W	- input circuits and output circuits for basic insulation $\geqslant 2~M\Omega$	OLIEK ONLEK MOLIEK	N/A	
NLTEK WAL	- input circuits and output circuits for double or reinforced insulation $\geqslant 5~\text{M}\Omega$	>100ΜΩ	LIER JUNEAU	
EK MITE	- each input circuit and all other input circuits connected together $\geq 2~\text{M}\Omega$	The state out	N/A	
- NITEL	- each output circuit and all other output circuits connected together $\geq 2~\text{M}\Omega$	Tet Tet Tet	N/A	
ALTEK O	- hazardous live parts and metal parts with basic insulation (Class II transformers) $\geq 2~M\Omega$	Mr. Mr. Mr.	N/A	
nices and	- conductive parts of class II transformers which are separated from hazardous-live parts by basic insulation only, and the body $\geq 5~\text{M}\Omega$	tet tet stet si	N/A	
EK RITEK	- metal foil in contact with inner and outer surfaces of insulating enclosures $\geqslant 7~\text{M}\Omega$	>100ΜΩ	k NITE P	
18.3	Electric strength test (1 min): no flashover or breakdown:	THE TEX	TEL STEEL	
WILE MY	Overvoltage category	West and was	Р	
	functional insulation; working voltage (V); test voltage (V)	lifet inlies unlies un	LIER AUTER M	
TEX MALTE	2) basic insulation; working voltage (V); test voltage (V)	(see table 18.3)	EX WILEX B	
t milex	supplementary insulation; working voltage (V); test voltage (V)	the tet the	N/A	
	4) double or reinforced insulation	(see table 18.3)	Р	

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N.C.	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdic		
onerek mer	5) Functional insulation for windings intended to be connected in series or parallel (test voltage = working voltage + 500 V)	White white white	N/A		
18.3.1	A partial discharge test according to IEC 60664-1, (see test description below) shall be performed, if FIW wires or TIW wires are used and if the recurring peak working voltage Ut across the insulation is greater than 750 V. The relevant recurring peak voltage is the maximum measured voltage between the input and the output circuit, if the secondary side is earthed. The measuring shall be done at 1,0 of the maximum rated input voltage.	TEK WALTER WALTER WALTER	N/A		
18.3.1.101	For transformers incorporated in an SMPS in accordance with Annex BB, a partial discharge type test in accordance with Annex AA shall be performed	STEEL MULTER MULTER ON	N/A		
18.4	Does not apply (IEC 61558-2-16:2021)	ER WILL WILL MIL	211 -211		
18.101	SMPS shall fulfil the impulse dielectric test in accordance with Annex R of IEC 61558-1:2017	et let set	P.T.		
	After the test of 18.3, the SMPS shall be connected to the impulse test equipment. The impulse dielectric test shall be carried out in accordance with Annex R of IEC 61558-1:2017 between the input and output terminals of the SMPS. The interval between the impulses shall be at least 1 s if the impulses are produced inside the SMPS.	Junited Whitek Whitek	TEK WATER		
EK WALTER	During the test, there shall be no breakdown of the insulation between turns of a winding, between input and output circuits, between adjacent input or output circuits, or between the windings and any conductive core	TEX ITEX SITEX	THE MILES		
18.5	Touch current and protective earthing conductor	r current	P		
18.5.1	General	TEL STEE MITEL	NET DE P		
18.5.2	Touch current	70 70	Р		
TE WHITEK	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 10. Measuring network according Figure J.1 (Annex J). If the frequency is >30kHz, measuring across the 500 ohm resistor of J.1 (burn effects).	TEX WHITE WHITE WHITE WHITE WHITE WHITE WHITE	Purity white		
LIFE WALF	Measurement of the touch current with switch p in both positions and in combination with switches e	TER TER STEEL O	LIET PLITE		

N/A

N/A

Р

0.425mA(limit: 0.5mA)

values of table 15.

switches n and e in on position switch n: off and switch e: on

switch n: on and switch e: off

The measured values are less than the required

and n.

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Reference	No.: \	WTX2	22X12	243522S

4		
	$\leftarrow$	М
N		J

IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
18.5.3	Protective earthing conductor current	Write Mriter Miles	N/A	
KEE.	The transformer is connected as in clause 14	a de de .	N/A	
rier wer	Impedance of the ammeter < 0,5 ohm, connected between earthing terminal of the transformer and protective earthing conductor	Nite White Whit Mr.	k militek m	
	The measured values are less than the required values of table 15.	t let the the	N/A	
19	CONSTRUCTION	Mrs. Mrs. Mrs.	Р	
19.1	General construction	at the the	P	
19.1.1	General	me me m	Р	
19.1.2	Auto-transformers	No auto-transformers	N/A	
19.1.2.1	Plug connected auto-transformers where the rated input voltage is higher than the rated output voltage, shall not have any potential to protective earthing at the output socket higher than the rated output voltage.	No polarised input	N/A	
19.1.2.2	Polarised input and output plug and socket-outlet system: an instruction shall be given for not using such a transformer with a nonpolarized plug and socket-outlet system.	White while while	N/A	
19.1.2.3	A polarity detecting device only energises the output in the case: output potential to earth ≤ rated output voltage, also with reversed input plug.	IN THE WALTE	N/A	
E# _C/E!	- The contact separation of the device is ≥ 3mm	the state	N/A	
10,	- A current to earth does not exceed 0,75 mA.	white mur mur	N/A	
WILLEY.	- All tests are repeated under fault conditions of H.3.3. The potential to earth does not exceed 1,1 times the max output voltage for more than 5 s.	Whitek whitek whitek w	N/A	
TEX MUTT	<ul> <li>for class I transformers, the insulation between the input / output winding and the body shall consist of at least basic insulation (rated for the working voltage)</li> </ul>	TEK WITTER WITTER WITTER	N/A	
H WALTER WALTER	<ul> <li>for class II transformers, the insulation between the input / output winding and the body shall consist of double or reinforced insulation (rated for the working voltage).</li> </ul>	united whited united,	N/A	
19.1.3	Separating transformers	ALTER MALTER MALTE WI	nu b	
19.1.3.1	Input and output circuits electrically separated.	in the	, P	
19.1.3.2	The insulation between input and output winding(s) consist of basic insulation	LIE WILL AUT.	P	
MILLE	Class I transformer	Et LIER SLIER JOLIES	"Will 2/4	
- Jet	Insulation between input windings and body consist of basic insulation	the state of	N/A	

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ie. Wille	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
WALLY LEX	Insulation between output windings and body consist of basic insulation	unit unit unit	N/A		
m, m	Class II transformer	WILL MUTTER AND A	P		
TIEK AUT	Insulation between input windings and body consist of double or reinforced insulation	TEX NITER MITER WAY	N/A		
EK INLTEK	Insulation between output windings and body consist of double or reinforced insulation	t tet tret stre	F DEF P		
19.1.3.3	The insulation between input windings and intermediate conductive parts and the output windings and intermediate part consist of basic insulation	Whitek whitek whitek	N/A		
n ^{lik} on	For class I transformer the insulation between input and output windings via the intermediate conductive parts consist of basic insulation	STEE WATER WATER ON	N/A		
y white y	For class II transformer the insulation between input winding and the body and between the output windings and the body via the intermediate conductive parts consist of double or reinforced insulation.	antiet mitet mitet	MILE WILLE		
19.1.3.4	Parts of output circuits may be connected to protective earthing	JULIER WALTER WALTE V	N/A		
19.1.3.5	No direct contact between output circuits and the body, unless:	TET WILLER WI	N/A		
EK WALTE	- Allowed for associated transformers by the relevant equipment standard	THE WILL WHITE	N/A		
19.1.4	Isolating transformers and safety isolating transformers	THE STEE STEEL	PE		
19.1.4.1	Input and output circuits electrically separated	71, 71, 11	P-		
ing in	No possibility of any connection between these circuits	NITER WHITE WALTE W	II P		
19.1.4.2	The insulation between input and output winding(s) consist of double or reinforced insulation (exception see 19.1.4.4)	TEX MILIER MILIER MILI	P		
unt.	Class I transformers not intended for connection to the mains by a plug:	WHITE WHITE WHITE	N/A		
MULL W	Insulation between input windings and body connected to earth consist of basic insulation (rated for the input voltage)	uniter writer uniter	N/A		
VEA MILE	Insulation between output windings and body, connected to earth consist of basic insulation rated (rated for the output voltage)	et tet tet ti	N/A		
- TEN	Class I transformers intended for connection to the mains by a plug:	Mrs. Aug. Au	P		

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdic	
unitex un	- Insulation between input windings and body connected to earth consist of basic insulation (rated to the working voltage)	White white white white	P	
TEX WALT	Insulation between output windings and body, connected to earth consist of supplementary insulation (rated for the working voltage)	TEX JULIER WITER WITER	P	
if the	Class II transformers	L of the set of	P	
WILLEY W	Insulation between input windings and body consist of double or reinforced insulation (rated for the input voltage)	TEX TEX STEX WITH	P	
VILER MUR	Insulation between output windings and body consist of double or reinforced insulation (rated for the output voltage)	STEET WITH WATER WHITEK	P	
19.1.4.3	For transformers with intermediate conductive parts not connected to the body (between input/output):	Iron core was considered as primary circuit	N/A	
19.1.4.3.1	For class I and class II transformers the insulation between input and output windings, via intermediate conductive parts, consist of double or reinforced insulation (rated for the working voltage)	Whitek whitek whitek whi	N/A	
uner vur et vuret	- For class II transformers the insulation between input winding and the body and between the output windings and the body via the intermediate conductive parts consist of double or reinforced insulation. (rated for the input voltage and output voltage), for SELV circuits only basic insulation is required.	united white	N/A	
WALTER WAS	- For transformers, different from independent, the insulation between input and output windings, via intermediate conductive parts, consist of double or reinforced insulation (rated for the working voltage)	Whitek Whitek Whitek Whitek	N/A	
19.1.4.3.2	Class I transformers with earthed core, and not allowed for class II equipment	et let let allet	N/A	
K WILLIEK	Insulation between the input winding and the earthed core: basic insulation rated for the input voltage	nites nites unites uni	N/A	
MUTEK M	- Insulation between the output winding and the earthed core: basic insulation rated for the output voltage	WALLER MATER MATER MATER	N/A	
19.1.4.3.3	Insulation between: input and intermediate conductive parts, and output and intermediate parts consist of at least basic insulation	LIEK WALTER WALTER	nt P	
Whitek	If the insulation from input or output to the intermediate metal part is less than basic insulation, the part is considered to be connected to input or output.	Iron core was considered as primary circuit	P	

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I WILL	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
19.1.4.4	For class I transformers, with protective screen, not connected to the mains by a plug the following conditions comply:	While while while w	N/A	
ITEK WILL	The insulation between input winding and protective screen consist of basic insulation (rated for the input voltage)	TEX WITE WITE WITE	N/A	
WILLER	The insulation between output winding and protective screen consist of basic insulation (rated for the output voltage)	MOLITER WOLFER	N/A	
WILLE A	The protective screen consist of metal foil or a wire wound screen extending the full width of the windings and has no gaps or holes	MUNITER MINITER WAITER OF	N/A	
VER MUTTE	- Where the protective screen does not cover the entire width of the input winding, additional insulation to ensure double insulation in this area, is used.		N/A	
NNLIEK	If the protective screen is made by a foil, the turns are isolated, overlap at least 3 mm	- Lifek Stifek Wifek	N/A	
NATEK W	The cross-section of the screen and the lead out wire is at least corresponding to the rated current of the overload protective device	MILES WALLES WALLES WAS	N/A	
LIEK WAL	- The lead out wire is soldered or fixed to the protective screen.	AND THE MANAGE	N/A	
EK WILLEY	For transformers for connection to the mains by the means of a plug of any type (incorporating or not), the alternative with basic insulation plus protective screening is not allowed.	Junite Junited Junited	N/A	
19.1.4.5	No connection between output circuit and protective earth, except of associated transformers (allowed by equipment standard) or 19.8 is fulfilled.	MILITER WHITE WHITE WE	N/A	
19.1.4.6	No connection between output circuit and body, except of associated transformers (allowed by equipment standard) or when 19.8 is fulfilled.	ret let the steet	N/A	
19.1.4.7	The distance between input and output terminals for the connection of external wiring is ≥ 25 mm	The fit is	P	
19.1.4.8	Portable transformers having an rated output ≤ 630 VA shall be class II.	murit murit murit	Р	
19.1.4.9	No connection between output circuit and body except of associated transformers (allowed by equipment standard)		P	
19.1.4.10	Protective screening is not allowed for transformers with plug connection to the mains	to the the	N/A	
19.2	Flammability of materials	TE SOLITE MALTE WALL	Sur P	
WALTER.	Materials known to be highly flammable, such as celluloid, shall not be used in the construction of transformers.	United Maries Maries M	ALTE VINITE	

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JACA .	IEC 61558-2-16					
Clause	Clause Requirement + Test Result - Remark					
an it	Cotton, silk, paper and similar fibrous material shall not be used as insulation, unless impregnated.	White White white	P P			
	Wax and similar impregnators shall not be used, unless suitably restrained from migration	Writes Muries Muries a	nii P			
TER WAL	Wood, even if impregnated, shall not be used as supplementary or reinforced insulation	TEX MITER MILIER WILL	N/A			
19.3	Short-circuit characteristics of portable transformers	s to the the	P			
4,	Portable transformer: short-circuit proof or fail-safe	MULL MULL MU	Р			
19.4	Class II transformer contact prevention of accessible	conductive parts	P ^(r)			
VILEX AN	There shall be provisions to prevent contact between accessible conductive parts and conduits or metal sheaths of supply wiring for class II transformers.	united whitek whitek w	LIFET MITES			
19.5	Class II transformer insulation reassembling after se	rvice	N/A			
. WALTER	Parts of class II transformers serving as supplementary insulation or reinforced insulation which might be omitted during reassembly after servicing, shall either:	e white whi whi	N/A			
TEX.	be fixed in such a way that they cannot be removed without being seriously damaged; or	at at the	N/A			
itek mut Mar	be so designed that they cannot be replaced in an incorrect position and that, if they are omitted, the <b>transformer</b> is rendered inoperable or is manifestly incomplete	until unit unit unit	N/A			
ek walie	Sleeving may, however, be used as supplementary insulation on internal wiring, if it is retained in position by positive means.	anire main maire	N/A			
19.6	Loosening of wires, screws or similar parts					
uritek ur	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 less than 50% specified values (Cl. 26)	White white whites w	P			
19.7	Resistor or capacitor connection with accessible con	N/A				
MUTIEN	Conductive parts connected to accessible metal parts by resistors or capacitors shall be separated from hazardous live parts by double or reinforced insulation	No such parts	N/A			
19.8	Bridging of separated conductive parts by resistors of	W. W. B				
LIEK WA	Resistors or capacitors connected between hazardous live parts and the body (accessible metal parts) consist of:	TIEK WILLER WILLER W	TEN ONLY P			
IEN WALTE	- components according to IEC 60 065, 14.2 or capacitor Y2 according to IEC 60 384-14	EX WHITEX WALTER WALT	N/A			
LIER	- at least two separate components	it it it	P.F			
an .	- if one component is short-circuited or opened, values specified in Cl. 9 shall not be exceeded	MULL MULL MULL	THE P			

	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdict
ANGE .	- if the working voltage is ≤ 250 V, one Y1 capacitor according 60384-14 is allowed	White white with white	Р
on ^{io} on TEK at	- For a working voltage above 250 V AC and not exceeding 500 V AC and an overvoltage category III, two Y1 capacitors are required.	NIFE WHITE WHITE WHITE	N/A
19.9	Insulating material separating input and output windi	ngs	N/A
WALTE	Insulation material input/output and supplementary insulation of rubber resistant to ageing	MULTER WALTER WALTER WALT	N/A
WALLEY	Creepage distances (if cracks) > specified values (Cl. 26)	STEE WITE WATER WATER	N/A
19.10	Accidental contact protection against hazardous-live coating	-parts provided by isolating	N/A
TEK INTE	Protection against accidental contact by insulating coating:	at the tile states	N/A
	a) ageing test (IEC 60068-2-14), test Na: 168 h; 70± 2°C	and and an an	N/A
101 CER	b) impact test (spring-operated impact hammer according to IEC 60 068-2-75; 0,5 ± 0,05 J)	MULT MILL MILL MILL	N/A
ar a	c) scratch test (hardened steel pin) electric strength test according to Cl. 18.3	White Murie Muri Muri	N/A
19.11	Insulating material of handles, operating levers, knobs and similar parts		N/A
J+ _{E	Handles, levers, knobs, etc.:		N/A
With	- insulating material	mitte white white wh	N/A
- 4	- supplementary insulation covering	L A A A	N/A
	separated from shafts or fixing by supplementary insulation	White white whit will	N/A
19.12	Winding construction	THE STEE WITE WITE	υ ^ν P ⊲
19.12.1	Undue displacement in all types of transformers not allowed:	of the lift slight of	ITE P
	- of input or output windings or turns thereof	me me me	Р
MULTE	- of internal wiring or wires for external connection	White white white whi	Р
WILLER	of parts of windings or of internal wiring in case of rupture or loosening	WILE WILES WILES	AND PER
19.12.2	Serrated tape:	Winding not contact wound parts, TIW used as Secondary winding	P
IER WALTE	- distance through insulation according to table 22	EX WATER WATER WAY	Pink
			N/A

N/A

one additional layer without serration

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
NITEK SI	- in case of cheekless bobbins the end turns of each layer shall be prevented from being displaced	Whit white	N/A
19.12.3	Insulated winding wires, in an insulation system providing basic, supplementary or reinforced insulation, shall meet the following requirements.	TEX SLITE NATES AND	TEK WITE P
EK MITE	Multi-layer extruded or spirally wrapped insulation, passed the tests of annex K	t the the site	K NI EK P
CLER	Basic insulation: two wrapped or one extruded wire	My My M	P
711 - 1	Supplementary insulation: two layers, wrapped or extruded	mure mure mure	P Et
"	Reinforced insulation: three layers wrapped or extruded	Stiff Marie Marie M	P
in with	Spirally wrapped insulation:	EK NITER WITE MIN	N/A
y anite	creepage distances between wrapped layers >     cl. 26 _ P1 values	TEX LIER SITES	N/A
LIEN.	path between wrapped layers sealed, the test voltage of K2 is multiplied with 1,35	IN THE THE	N/A
24,	test 26.2.4 – Test A, passed for wrapped layers	mr. mr. m. 1	N/A
NLTER JUNE	the finished component pass routine test for the electric strength test according to cl. 18.3	TEX MILIER WI	N/A
a)	Insulated winding wire used for basic or supplementary insulation in a wound part:	and the special sounds	N/A
- Let	comply with annex K	1 1 1	N/A
Mr.	two layers for supplementary insulation	WILL WILL MUIT	N/A
Clerk .	one layer for basic insulation	at at at	N/A
TER WALL	one layer for mechanical separation between the insulated wires of primary and secondary. This layer fulfils the requirement of basic insulation.	ited murical murical muri	N/A
b)	Insulated winding wire used for reinforced insulation in a wound part:	- united matter matter	WILL BET
JEE	comply with annex K	at at at	P P
21, 2	three layers	WHEEL MUES MUSS.	Р
NITER IN	relevant dielectric strength test of 18.3	let let let	N/A
-	Where the insulated winding wire is wound:	in my my my	N/A
IET NALTE	upon metal or ferrite cores	EF LIEF STEF ST	N/A
, , , t	upon enamelled wire	me me m	N/A
MILITE	under enamelled wire	TER TER STEE	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
MUTER M	one layer for mechanical separation between the insulated wires and the core or the enamelled wires is required. This layer fulfils the requirement of basic insulation.	Write Multiple Miles	N/A	
LIER WIL	both windings shall not touch each other and also not the core.	TEX MITEX MALTER WAL	N/A	
EX JE	100 % routine test of Annex K3 is fulfilled	L A A A	N/A	
ZEK.	no creepage distances and clearances for insulated winding wires	mer mer me	N/A	
c)	Toroidal cores used with TIW wires for double or reinforced insulation between the primary and secondary circuits shall comply with the following:	unit unit unit	AP ALTER	
	a coating which fulfils the requirements of basic insulation between a winding and the core	er me me m	N/A	
MUTER A	2) The primary winding consists of TIW wire with 3 layers (reinforced insulation) and the secondary winding consists of enamelled wire. These independent windings shall not be able to contact each other either by mechanical separation or a gap which fulfil the dielectric strength tests for basic insulation.	Junited Whitest Whitest	N/A	
LIER WAS	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding consists of TIW wire with 3 layers and the secondary winding consists of a TIW wire with 1 layer (requirements for primary and secondary windings can be changed). This construction also is allowed for use with EEcores or similar.	Antie while while while while while	TET IN/A	
d) (d)	Toroidal cores used with FIW wires for double or reinforced insulation between the primary and secondary circuits shall comply with the following:	NITER WHITER WHITER W	N/A	
TER WIT	a coating, which fulfil the requirements of basic insulation.	TEX WILLIER WALTER WALT	N/A	
MULIER WHITER WHITER	2) The primary winding consists of FIW wire for reinforced insulation and the secondary winding consist of FIW wire – of basic insulation. These independent windings shall not be able to contact each other either by mechanical separation or a gap which fulfil the dielectric strength test for basic insulation.	united whited whited	N/A	
SEX MUTER	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding and the secondary winding consist of FIW wire for reinforced insulation.  This construction also is allowed to use for EEcore or similar.	et while whilet while  Whilet whilet while	N/A	

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	1	V	7	١
1	1	V		
				Š

in Will	et the other of	" INLI" WAL	
Clause	Requirement + Test	Result - Remark	Verdict
e)	Toroidal cores used with TIW in combination with FIW wire, for double or reinforced insulation between the primary and secondary circuits shall comply with the following:	White white white	N/A
LIER WAL	a coating, which fulfils the requirements of basic insulation.	TEX MITER MILIER AND	N/A
MUTER AND	2) The primary winding consists of FIW wire for reinforced insulation, and the secondary winding consists of TIW wire for basic insulation (1 layer). These independent windings shall not be able to contact each other either by mechanical separation or a gap which fulfil the dielectric strength tests for basic insulation.	t whitek whitek whitek	N/A
TEK WILTE MINITER	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding consists of TIW wire for reinforced insulation (3 layer) and the secondary winding consists of FIW wire for reinforced insulation. This construction also is allowed for use with EE-cores or similar.	EX UNITEX UNITEX UNITER	N/A
f)	Toroidal cores used with TIW in combination with FIW wire, for basic insulation between the primary and secondary circuits shall comply with the following:	neite unit vinit v	N/A
EK WALTE	1) a coating, which fulfils the requirements of basic insulation	air mir mir	N/A
whitek w	2) The primary winding consists of FIW wire for basic insulation, and the secondary winding consists of TIW wire for basic insulation (1 layer). These independent windings shall not be able to contact each other either by mechanical separation or a gap which fulfils the dielectric strength tests for basic insulation.	MULTER WHITER WHITER	N/A
Whitek w	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding consists of TIW wire for supplementary insulation (2 layers) and the secondary winding consists of FIW wire for basic insulation. This construction also is allowed for use with EE-cores or similar.		N/A
NITER WA	4) Further polyfilar constructions with FIW and TIW wires in combination with enamelled wires for basic insulation only:	LIER WHITE WHITEH WE	N/A
	4.1) Primary winding consists of enamelled wire, secondary winding consists of FIW wire for reinforced insulation	WALTER WALTER WAL	MU F MUT
	4.2) Primary winding consists of enamelled wire, secondary winding consists of TIW wire for reinforced insulation	WALTER WALTER WALTER	ANTI ANTI

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in Their	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
19.12.3.1	Max. class F for transformers which use FIW-wire	WILL MILES MILE	N/A	
19.12.3.2	FIW wires comply with IEC 60851-5:2008, IEC 60317-0-7 and IEC 60317-56.	NIFE WALLEY WALLEY W	N/A	
ITER WILT	other nominal diameter as mentioned in table 24 can be calculated with the Formula (6) in 26.3.5:	TEX WILLER WALFER WAL	N/A	
Mer	FIW wire used for basic or supplementary insulation for transformers according 19.1.3:	MULTER WALTER WALTE	ANT PART	
MUTER W	the test voltage of table 14, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 24	White white white	N/A	
SEK WALTER	one layer for mechanical separation is located between the insulated wires of primary and secondary. This layer fulfil the requirement of basic insulation	Ex mores mores more	N/A	
White.	between FIW and enamelled wire, no requirements of creepage distances and clearances	Whitek white white	N/A	
ne n	no touch of FIW and enamelled wires	Write Muris, Mur. M	N/A	
LIEK WAL	FIW wire used for double or reinforced insulation for transformers according 19.1.4:	Et MILIER MIN	TEK WITER W	
EK WALTER	the test voltage of table 14, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 24	Junite milit muite	N/A	
2112 A	for primary and secondary winding FIW-wire for basic insulation is used	white water water	N/A	
ine white	one layer for mechanical separation is located between the insulated wires of primary and secondary. This layer fulfil the requirement of basic insulation	TER WITE MITTER MITTER	N/A	
WALTER.	no touch between the basic insulated PRI and SEC FIW-wires	- Tiek writek writek	N/A	
	between PRI- and SEC-FIW wires, no requirements of creepage distances and clearances	WILER MUTER MUTER	N/A	
LIEK WILL	Alternative construction used for reinforced insulation (reinforced insulated FIW wire and enamelled wire)	LIER WHITER WHITER WH	N/A	
MULT	the test voltage of table 14, based on the working voltage reinforced insulation, comply with the min. voltage strength of table 24	White white white	N/A	

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	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
WALTEX W	one layer for mechanical separation is located between the reinforced insulated FIW wire and the enamelled wire. This layer fulfil the requirement of basic insulation	While while while	N/A		
lifer whi	no touch between the FIW wire and the enamelled wire	TEX WILLER WILLER WAS	N/A		
EK WALTER	between the reinforced FIW wire and any other parts, no requirements of creepage distances and clearances exist	Whitek whitek white	N/A		
MULL A	Alternative construction with FIW wires, basic or supplementary insulated for transformers with double or reinforced insulation:	united united united.	N/A		
TEX WHITE	the test voltage of table 14, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 24	EX WHITEX WHITEX WHI	N/A		
MALTER	PRI or SEC basic insulated FIW wire and to the other winding (enamelled wire) requirements of supplementary insulation	MALTER MALTER MALTER	N/A		
MULTER MAL	creepage distances and clearances between the basic insulated FIW wire and the enamelled wire for basic or supplementary insulation are required.	UNLIER WHITE WHITE W	N/A		
, t	Where the FIW wire is wound	2 13	N/A		
Week	upon metal or ferrite cores	ALTE WITH WALT	N/A		
WALTEX.	one layer for mechanical separation between the insulated wires and the core or the enamelled wires is required. This layer fulfils the requirement of basic insulation.	MILIER MILIER WALLER	N/A		
11 m	both windings shall not touch each other and also not the core.	NITE WALL WALL W	N/A		
19.13	Fixing of handles, operating levers and similar parts	TER STIFF SPITE SHIP	N/A		
ek watek	Handles, operating levers and similar parts shall be fixed in a reliable manner so that they will not become loose as a result of heating, vibration, etc. which may occur in normal use.	JUNITER WAITER WAITER	N/A		
19.14	Fixing of covers providing protection against electric	shock	antil an P		
. 17 ^{EX} . 181	Protection against electric shock: covers securely fixed, 2 independent fixing means, one with tool	ing in the	CTEX NITE OF		
19.15	Strain on fixed socket-outlets caused by pin-transfor	mers connection	N/A		
TER MULTE	Transformer with pins for fixed socket-outlets: no strain on socket-outlet	ex while while whi	N/A		
LIEX	Additional torque ≤ 0,25 Nm	at let let	N/A		
19.16	Portable transformers for use in irregular or harsh co	onditions	70 P		

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		A	
U	77	71	

IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic
WELL TEN	Portable transformers for use in irregular or harsh conditions	White white whi	P
ilek mi	Portable transformers having a weight not exceeding 18 kg shall have a protection index IPX4 or higher.	IP20 for indoor use only.	out P
19.17	Drain hole of transformers protected against ingress	of water	N/A
ek waite Tiek	Transformers having a protection index from IPX1 up to and including IPX6 shall have an effective drain hole at least 5 mm in diameter or 20 mm ² in area, with a width of at least 3 mm.	t whitek whitek whitek w	N/A
VILEK AN	The drain hole is not required if the transformer, including its windings and core and all uninsulated live parts, are completely embedded in a potting material.	which while while	N/A
19.18	Plug connected transformers protected against ingre	ess of water	N/A
t TEX	Transformers classified for a protection index higher than IPX1 and having a cord provided with a plug; it shall be a moulded-on plug.	er with with any	N/A
19.19	Flexible cable or flexible cord connection for class I	portable transformers	N/A
NATIEK W	Class I transformers with a non-detachable flexible cable or cord with earth conductor and a plug with earth contact	UNITER AUTHER MUTTER MUTT	N/A
19.20	SELV- and PELV-circuit separation of live parts	At The STEE STEE	P
EK MALTE	Live parts of SELV- and PELV-circuits shall be electrically separated from each other and from other circuits	SELV	P Ni Mi
WALTER	- SELV output circuits separated by double or reinforced insulation from all other than SELV or PELV circuits	MILER MILER WALTER WAS	FE WALTER
ULITEK UN	- SELV output circuits separated by basic insulation from other SELV or PELV circuits	LIFE DUTER MUTER MATE	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	TEX WILLEX WILLEST	N/A
y white	Nominal voltage (V) > 25 V a.c. or 60 V d.c., the required insulation fulfils the high voltage test according to table 14	Whitek whitek whitek w	N/A
19.20.2	PELV-circuits double or reinforced insulation is necessary	UNITED WALTER WALTER WALT	N/A
19.21	Protection against contact for FELV-circuit	let tet tet tret	N/A
er te	FELV-circuits: protection against contact fulfils the min. test voltage required for the primary circuit	t at at tet	N/A
19.22	Protective earthing regarding class II transformers	THE WALL WITH A PARTY	Р
NALTER	Class II transformers shall not be provided with means for protective earth	LIEF WIFE WITER	TE PIE

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
MILIER MILIER M	A class II transformer intended for looping-in may have an internal terminal for maintaining the electrical continuity of a protective earthing conductor not terminating in the transformer, provided that the terminal is insulated from the accessible conductive parts by class II insulation.	NUTER WHITE WHITE WHITE .	N/A	
19.23	Protective earthing regarding class III transformers	and the sur a	N/A	
WALTE	Class III transformers shall not be provided with means for protective earth	MULTER WALTER WHITE WHI	N/A	
20 🛷	COMPONENTS	at let let set	Р	
20.1	Components such as switches, plugs, fuses, lamp holders, capacitor and flexible cables and cords, comply with relevant IEC standard	See appended Critical Component list.	Р	
TEK SIT	Components inside the transformer pass all tests of this standard together with the transformer tests	of the the state of	TEK P	
t Tet	Testing of components separately to the transformer according the relevant standard:	and any any any	P	
MUTIER A	- 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).	Whitek whitek whitek whitek	N/A	
VII MUS	- Components without markings tested under transformer conditions including inrush current.	The Junit while w	P	
MALIER	If no IEC standard exists, the component is tested under transformer conditions.	Components complied with IEC or UL. Components which comply with UL standard only are tested additionally under transformer conditions.	Pic	
20.2	Appliance couplers for main supply shall comply with:	SLIER WILLER WILLER	N/A	
16th 25	- IEC 60 320 for IPX0	at at all the	N/A	
411	- IEC 60320-2-3 or IEC 60309 for other	it will our our on	N/A	
20.3	Automatic controls shall comply with IEC 60730-1	et let let li	N/A	
20.4	Thermal-links comply with IEC 60691	mer mer me m	N/A	
20.5	Switches shall comply with annex F	No switch	N/A	
70. 1	Disconnection from the supply:	ner me me m	N/A	
NITER WA	by a switch, disconnecting all poles of the supply (full disconnection under the relevant overvoltage category)	THE MULTER WALTER MALTER V	N/A	
MUSE	- or a flexible supply cable and cord with plug	ex writer write white wh	N/A	
LANTEK	- or an instruction sheet: disconnection by all- poles switches incorporated in fixed wiring	if the lift with with	N/A	

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ie. Wile	IEC 61558-2-16	Et THE JET JE	WILL WILL
Clause	Requirement + Test	Result - Remark	Verdict
20.6	Socket-outlets of the output circuit shall be such that there is no unsafe compatibility to plugs complying with input circuit.	While while while	N/A
LIEK KLI	SELV plug and socket-outlets shall comply with IEC 60 884-2-4 and IEC 60 906-3	or so that the	N/A
EX WALTER	Plugs and socket-outlets for SELV systems with both a rated current ≤3A and a rated voltage ≤ 24 VAC or 60VDC with a power not exceeding 72W are allowed to comply only with following:	t whitet whitet white	N/A
MULTER	It is not possible for plugs to enter socket- outlets of other standardised voltage system	WALTER WALTER WALTER	N/A
INLIER WY	- Socket outlets do not accommodate plugs of other standardised voltage systems	THE MUTER WHITER ON	N/A
TEK WALTE	- Socket outlets do not have a protective earth contact	et aret oriet our	N/A
k mijek	PELV plug and socket-outlets shall comply with following:	- Tex Tex Tex	N/A
SIII.	It is not possible for plugs to enter socket- outlets of other standardised voltage system	Mr. Mr. Will	N/A
No. 1	Socket outlets do not accommodate plugs of other standardised voltage systems	With Mut. Aur. A	N/A
ni mi	- Socket outlets do not have a protective earth contact	To Conti of	N/A
MULLE	FELV plug and socket-outlets shall comply with following:	White White white	N/A
White.	It is not possible for plugs to enter socket- outlets of other standardised voltage system	MITEL WHITE WHITE	N/A
UNLTEK VIN	- Socket outlets do not accommodate plugs of other standardised voltage systems	LIER WILER WILER	N/A
20.7	Thermal cut-outs, thermal links, overload relays, fuses and other overload protective devices shall have adequate breaking capacity	LEK MULTER MULTER MULT	P P
WALTER	- Thermal cut outs fulfil the relevant requirements of 20.8 and 20.9	HALTER WALTER WALTER	N/A
WALTER W	- Thermal links fulfil the relevant requirements of 20.9	LIET WIET WIET	N/A
NITEH NIN	- The breaking capacity is in accordance with the relevant fuse standard	Alt The The Party	TEL P
TEK WALTE	For fuses according IEC 60127 and IEC 60269, the fuse current does not exceed 1,1 times of the rated value	et with white whit	EX WALL
20.8	Thermal cut outs shall meet the requirements of 20.8.1.1 and 20.8.2, or 20.8.1.2 and 20.8.2.	TER STER STER	N/A
20.8.1	Requirements according to IEC 60730-1	111, 111, 211	N/A

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7/1/2	IEC 61558-2-16	the the little will	an an
Clause	Requirement + Test	Result - Remark	Verdict
20.8.1.1	Thermal cut-out tested as component shall comply with IEC 60 730-1	White white white	N/A
are an	a) Thermal cut outs type 1 or type 2 (see 6.4 of IEC 60730-1:2013)	nite wait while a	N/A
EK MUTER	b) Thermal cut outs fulfil the requirements of micro-interruption (type 1.C or 2.C) or micro-disconnection, (type 1.B or 2.B) (see IEC 60730-1:2013)	TEE WALTER WALTER WAS	N/A
MALTER	c) Thermal cut outs with manual rest have a trip free mechanism (type 1.E and 2.E) (see IEC 60730-1:2013)	MALTER MALTER MALTER	N/A
INLIEK WA	d) The number of cycles of automatic action shall be:	LIER WIER WILER	N/A
et de	- 3000 cycles for self-resetting thermal cut-outs	1 + 0+ 1	o N/A
* "it	- 300 cycles for non-self-resetting thermal cut- outs resetting by hand	White white whi	N/A
Mrs	- 300 cycles for non-self-resetting thermal cut- outs resetting disconnecting	White White White	N/A
WALTER W	- 30 cycles for non-self-resetting thermal cut-outs which are only resettable by a tool	MITER WALTER WALTER	N/A
NITER WAL	e) Thermal cut outs fulfil the electrical stress according 6.14.2 of IEC 60730-1:2013	et unitet un	N/A
er Je	f) Characteristic of thermal cut-outs:	- 1	N/A
n.	- ratings according IEC 60730-1:2013, cl. 5	MALL WALL WALL	N/A
- Jet	- classification according to:	at at all	N/A
2/1 /	1) nature of supply to IEC 60730-1:2013, cl. 6.1	write mile me	N/A
NATTER OWN	2) type of load controlled to IEC 60730-1:2013, cl. 6.2	Will and the and the	N/A
ITEK WALT	3) degree of protection IPX0 to IEC 60730- 1:2013, cl. 6.5.1	tet sitet nitet mi	N/A
ek mitek	4) degree of protection IP0X to IEC 60730- 1:2013, cl. 6.5.2	the text of the	N/A
10.	5) pollution degree to IEC 60730-1:2013, cl. 6.5.3	Mr. Mr. M.	N/A
WALTE W	6) comparative tracking index to IEC 60730- 1:2013, cl. 6.13	UNLIEK WALTER WALTER	N/A
NLTER WAS	7) max. ambient temperature to IEC 60730- 1:2013, cl. 6.7	riet wriet writes w	N/A
20.8.1.2	Thermal cut-out tested as a part of the transformer, test with 3 samples:	et lifet outlet wit	N/A
h MITER	- at least micro-interruption or micro- disconnection (IEC 60730-1:2013)	THE THE LIES	N/A
7	- 300 h aged at ta (transformer) + 10°C	mer me m	N/A

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The state of	IEC 61558-2-16	the other other sold	and and
Clause	Requirement + Test	Result - Remark	Verdict
WALTE.	- subjected to a number of cycles for automatic operating according 20.8.1.1	White white with	N/A
and and	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	Nate Multiply Multiply Multiply	N/A
20.8.2	Thermal cut-outs shall have adequate breaking capacity	t wifet mitet white	N/A
20.8.2.1	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.	MALIER MILIER MILIER	N/A
	- 3 cycles at 25° C for transformers without t _{amin}	- m - m - n	N/A
The Will	- 3 cycles at t _{amin} for transformers with t _{amin}	EX STER STER SOLI	N/A
K WITEK	- after the 3 cycles short circuit of the output at 1,1 of rated supply voltage for 48 h.	- TEX STEX STEX	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.	Writek Miritek Muriek A	N/A
20.8.2.2	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.	The surviver our	N/A
. Mrs.	- 48 h at 25° C for transformers without t _{amin}	mit with white	N/A
MULTER	- 24 h at ta and 24 h at t _{amin} for transformers with t _{amin}	LIEF WIEF WILES	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.	NITER WAITER WAITER	N/A
20.8.3	Test of a PTC resistor:	TER WITER WITE MIN	N/A
EK WILLEK	5 cycles: transformer short-circuited for 48 h by 1,1 times of the input voltage and max. ta	to the street with	N/A
WALTEK W	5 cycles: transformer short-circuited for 48 h by 0,9 times of the input voltage and min. ta (if declared)	THE WALLET	N/A
NLTEX JUNE	After the test: withstand the test of clause 18, show no damage in sense of this standard, and be operational.	LIEK WILLER WILLER W	N/A
20.9	Thermal links shall be tested in one of the following two ways.	et united whited whit	N/A
20.9.1	Thermal-links shall comply with IEC 60 691 as a separate component.	NIEK MIEK MITEK	N/A
J.	- electrical conditions to IEC 60691, cl. 6.1	4, 4, 7	N/A

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	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdict
An Car	- thermal conditions to IEC 60691, cl. 6.2	MITER WATER WATER	N/A
All the	- ratings to 8 b) of IEC 60691:2015	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N/A
nar di Ter	- suitability of sealing components, impregnating fluids or cleaning solvents 8 c) of IEC 60691:2015	net white mit white	N/A
20.9.2	Thermal-links tested as a part of the transformer:	The same of the sa	N/A
WILL	- ageing test 300 h by 35 °C or ta + 10 °C	A RESERVE MITTER MILE WAL	N/A
MITER	- After transformer fault condition the thermal link operate without sustaining arcing	Tet sites with writer	N/A
LIEK W	- after opening the thermal-link shall have an insulation resistance of at least 0,2 $M\Omega$	et it jet siet	N/A
	- 3 cycles for replaceable thermal-links	ir m. m. m.	N/A
IER WILL	- 3 new specimens for not replaceable thermal- links	EX MILIER MILIER WHITE MI	N/A
20.10	Self-resetting devices not used if mechanical, electrical, etc. hazards	niter writer writer	N/A
20.11	Thermal cut-outs intended to be reset by soldering operation shall not be used for overload protection.	it lit lit lit	N/A
20.12	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.	oner some some som	P
21	INTERNAL WIRING		ΗP
21.1	Internal wiring and electrical connections protected or enclosed	MILLE MILL MILL MILL	Р
antie.	Wire-ways smooth and free from sharp edges	No sharp edges.	Р
21.2	Openings in sheet metal: edges rounded (radius ≥ 1,5 mm) or bushings of insulating material	at the the state	N/A
21.3	Uninsulated conductors: distances adequately maintained	A St St St	Р
21.4	When external wires are connected to terminal, internal wiring shall not loosen up	Aut Aug and an	P
21.5	Insulation of heat-resistant and non-hygroscopic material for insulated conductors subject to temperature rise > limiting values given in 14.1	White white white white	P
22	SUPPLY CONNECTION AND EXTERNAL FLEXIB	LE CABLES AND CORDS	Р
22.1	All cables, flexible cords etc. shall have appropriate current and voltage ratings	Output cord is suitably used within the current and voltage rating.	ni P
22.2	Input and output wiring inlet and outlet openings for external wiring: separate entries without damage to protective covering of cable or cord	Output cord with integral bushing	P

	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
	The same same same same same same same sam	- the the the	it with	
	Input and output wiring inlet and outlet openings for flexible cables or cords: insulating material or bushing of insulating material	TEX STEX WIFE AND	P	
ijek _d ai	Bushings for external wiring: reliably fixed, not of rubber unless part of cord guard	Bushing for output cord.	P	
22.3	Fixed transformer:	, mr m m	N/A	
A PUTE	- possible to connect after fixing	t THE THE STREET	N/A	
TEX	inside space for wires allow easy introduction and connection of conductors	at the the	N/A	
7,1, 1	- fitting of cover without damage to conductors	Weign and any and	N/A	
NITER WY	contact between insulation of external supply wires and live parts of different polarity not allowed	LIFEY WHITEK WHITEK WHITE	N/A	
22.4	Length of power supply cord for portable transformers:	ES WHITE WHITE WALL	N/A	
WALTER	- not exceed 2 m for cross-sectional area of 0,5 mm ²	anifek unifek unifek un	N/A	
JUNITER W	<ul> <li>exceed 2 m for cross-sectional areas greater than 0,5 mm².</li> </ul>	MITER MITER WALTER WALT	N/A	
22.5	Power supply cords for transformers IP20 or higher and transformers for "indoor use only" ≥ IP20:	at Juliet milet	N/A	
ek unite unitek	- for transformers with a mass ≤ 3 kg: IEC 60227-5:2011 – type 60227 IEC 52 or ordinary tough rubber sheathed flexible cable or cords according to IEC 60245-4:2011 – type 60245 IEC 53;	unit unit unit	N/A	
Milex M Tek ai	- for transformers with a mass > 3 kg: IEC 60227-5:2011 – type 60227 IEC 53 or ordinary tough rubber sheathed flexible cable or cords according to IEC 60245-4:2011 – type 60245 IEC 53.	NITER WATER WATER WATER	N/A	
it antiex	Power supply cords for transformers for outdoor use: ≥ IPX0: IEC 60245-4:2011 – type 60245 IEC 57	- TEX STEX NITER III	N/A	
22.6	Power supply cords for single-phase portable transformers with input current ≤ 16A:	Tet Tet Jet J	N/A	
The s	- cord set fitted with an appliance coupler in accordance with IEC 60320(all parts)	and an an an	N/A	
22.7	Nominal cross-sectional area (mm²); input current (A) at rated output not less than shown in table 16	THE MUT MUT MUT	Р	

N/A

22.8

Class I transformer with power supply flexible cable: green/yellow core connected to earth terminal

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ie. Write	IEC 61558-2-16	Et TEX JET JI	" INLIE WAL
Clause	Requirement + Test	Result - Remark	Verdict
WALLEY W	Plug for single-phase transformer with input current at rated output ≤16 A shall comply with IEC TR 60083, IEC 60 906-1 or IEC 60 309(all parts)	while while while	N/A
22.9	Type X, Y or Z attachments: see relevant part of IEC 61558-2.	et tet stet si	TEL DE P
22.9.1	For type Z attachment: moulding enclosure and external flexible cable or cord do not affect insulation of cable	t mitely mitely mitely	F P TO MILE
22.9.2	Inlet openings or inlet bushing: without risk of damage to protective covering of external flexible cable or cord	MATER MATER MATER	N/A
aller of	Insulation between conductor and enclosure:	et let set	N/A
Left Cit	- for Class I transformer: insulation of conductor plus separate basic insulation	it are are	N/A
f "Ex	- for Class II transformer: insulation of conductor plus double or reinforced insulation	with the me	N/A
uniter o	The sheath of an external flexible cable or cord equivalent to at least that of a cord complying with IEC 60227 (all parts) or 60245 (all parts) is regarded as basic insulation.	MILIE MILIER MILIER	N/A
NITER WAS	A lining or a bushing of insulating material in a metallic enclosure is only regarded as supplementary insulation	antifet on	N/A
EK WALTE	An enclosure of insulating material is regarded as reinforced insulation	Marie Marie Marie	N/A
22.9.3	Inlet bushings:	A BY BY	P
2/2 .	- no damage to external flexible cable or cord	with mit me	n P
LIEN IS	- reliably fixed	at let let	JE JP
10 20	- not removable without tool	VILL MUT AND A	Р
LIE WALT	- not integral with external flexible cable or cord (for type X attachment)	IEK UNITEK WALTER WAL	Punt Punt
ik waliek	- not of natural rubber except for Class I transformer with type X, Y and Z attachments	· NITER WITER WHITE	N/A
22.9.4	For transformers which are moved while operating:	711 1	N/A
71/12 Z	- cord guards, if any, of insulating material and fixed	MALTER MALTER MALLE	N/A
VILL MU	Compliance is tested by the oscillating test according to fig. 12:	LIEK WILLER WUTTER AN	N/A
TEN OUTE	- loaded force during the test according to fig. 12	et let let it	N/A
72,	- 10 N for a cross-sectional area > 0,75	me me me	N/A
MLTER	- 5 N for other cords	TEK LIEK LITER	N/A
2,	After the test according to fig. 12:	The me me	N/A

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" "ILL.	IEC 61558-2-16	ER TER TER TO	The me
Clause	Requirement + Test	Result - Remark	Verdict
an Co	- no short-circuit between the conductors	Mill While While	N/A
MULIEK WI	- no breakage of more than 10% of stands of any conductor	STEP WILL MILET M	N/A
IEK MIL	- no separation of the conductor from the terminal	TEX STEX NUTER IN	N/A
+ 24	- no loosening of any cord guards	4, 4, 7	N/A
Miles	- no damage of the cord or cord guard	RETER MITE WALTE	N/A
MITER	- no broken strands piercing the insulation and not becoming accessible	THE STEE STEEL	N/A
22.9.5	Cord anchorages for type X attachment:	24 24 24 Th	Р
VER TE	<ul> <li>glands in portable transformers not used unless possibility for clamping all types and sizes of cable</li> </ul>	Street white wh	N/A
- 711°	- moulded-on designs, tying the cable into a knot and tying the end with string not allowed	in mir mer mer	N/A
Me	- labyrinths, if clearly how, permitted	nite white white	N/A
16th	- replacement of cable easily possible	1 1 1	N/A
ing a	- protection against strain and twisting clearly how	Unite White White	N/A
in wit	suitable for different types of cable unless only one type of cable for transformer	THE MILITE WAS	N/A
WALTE	the entire flexible cable or cord with covering can be mounted into the cord anchorage	MILIE MILLE WALTE	N/A
JEE	- if tightened or loosened no damage	et et set	N/A
WITEK W	no contact between cable or cord and accessible or electrically connected clamping screws	TEX STEX STEX ST	N/A
٠.	- cord clamped by metal screw not allowed		N/A
ir whi	- one part securely fixed to transformer	rex street intrestant	N/A
	for Class I transformer: insulating material or insulated from metal parts	the text step	N/A
Jet	for Class II transformers: insulating material or supplementary insulation from metal parts	Who who we	N/A
rii _{lik} wi	Cord anchorages for type X, Y, Z attachments: cores of power external flexible cable or cord insulated from accessible metal parts by:	Mill And Alex of	N/A
EK OLTE	- basic insulation (Class I transformers), separate insulating barrier/cord anchorage	of the the	N/A
MALTER	- supplementary insulation (Class II transformers), special lining/cable or cord sheath of cable sheath of cable	THE WIFE WIFE	N/A
.+	Cord anchorages for type X and Y attachments:	70, 2, 2,	N/A

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it will.	IEC 61558-2-16	EX TEX LIET SLIEN IN	The Will
Clause	Requirement + Test	Result - Remark	Verdict
WALLEY VIEW	replacement of external flexible cable or cord does not impair compliance with standard	white white will	N/A
المريد الما	the entire flexible cable or cord with covering can be mounted into the cord anchorage	Write Murrey Murry Mary	N/A
TIE WILL	- if tightened or loosened no damage	THE STEE STEE SHITE S	N/A
EX MULTER	no contact between cable or cord and accessible or electrically connected clamping screws	t whitek whitek whitek whi	N/A
LIER	- cord clamped by metal screws not allowed	at let let life	N/A
11, 1	- knots in cord not used	While Mar My My	N/A
aliek o	- labyrinths, if clearly how, permitted	LET THE THE STEE	N/A
16th 15th	Tests for type X with special cords, type Y, type Z	Output cord are type Z for all models.	Р
K WILLER	Test for type X attachments one test with a cord with smallest and one test with a cord with the largest cross-sectional area:	- TEX IEX SIEX WI	P ^W
CEL	- for the test with clamping screws or tightened with torque 2/3 of that specified in table 18	THE THE THE	P
111 12	- not possible to push cable into transformer	neit me me me	Р
LITER OUT	- 25 pulls of 1 s	et Jight stifft	UT P
	- 1 min torque according to table 17	2 24 24 2	Р
ET WITE	- mass (kg); pull (N); torque (Nm)	Mass <1kg; 30N; 0.1Nm	زاد _{ما} رز
`	- during test: cable not damaged	me m m	Р
WALTE	- after test: longitudinal displacement ≤ 2 mm for cable or cord and ≤ 1 mm for conductors in terminals	MULTER MULTER MULTER MULTER	P
in in	- creepage distances and clearances values specified in Cl. 26	HELL MULT MAY MAY	Р
22.9.6	Space for external cords or cable for fixed wiring and for type X and Y attachments:	THE WALLE MALL WALL OF	N/A
MULL	- before fitting cover, possibility to check correct connection and position of conductors	WHITE WALTER WHITE WAL	N/A
WITE.	- cover fitted without damage to supply cords	THE THE LIFE MITTE	N/A
ULER MU	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	THE WHITE WHITE WHITE	N/A
L MALTEX	Space for external cords or cable for type X attachment and for connection to fixed wiring, in addition:	THE LIFE WIFE AND	N/A
	- conductor easily introduced and connected	24 24 24 24 24 24 24 24 24 24 24 24 24 2	N/A

	IEC 61558-2-16	LEK TEK LIEK ALTE	Wife and
Clause	Requirement + Test	Result - Remark	Verdic
NATIEK W	possibility of access to terminal for external conductor after removal of covers without special purpose tool	TEX SIEK SIEK W	N/A
23	TERMINALS FOR EXTERNAL CONDUCTORS	24 24 24	, P
23.1	Transformer for connection to fixed wiring and transformer without power supply cords with type Y and Z attachments: only connections by screws, nuts or equally effective devices.	THE WALTER WALTER WALTER	N Parl

Clause	requirement i rest	Tresuit - Tremain	Verdic
WALTER THE	possibility of access to terminal for external conductor after removal of covers without special purpose tool	White white white	N/A
23	TERMINALS FOR EXTERNAL CONDUCTORS	12 21 21 2	Р
23.1	Transformer for connection to fixed wiring and transformer without power supply cords with type Y and Z attachments: only connections by screws, nuts or equally effective devices.	TER WILLER WILLER WILLER	P
, Et	Terminals are integral part of the transformer:	71 1	N/A
7111.F. 1	- comply with IEC 60 999-1 under transformer conditions	White White White	N/A
ULLE ON	Other terminals:	LIER SLIER WILLIAM	N/A
	- separately checked according to IEC 60 998-2-1, IEC 60 998-2-2 or IEC 60 947-7-1	et whilet whilet while	N/A
L JEE	- used in accordance with their marking	at at at	N/A
707	- checked according to IEC 60 999-1 under transformer conditions	MULL MULL MULL	N/A
ant w	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 other conductive part cannot be reduced to less than 50% of specified value (Cl.26) should conductor break away		N/A
	Transformer with type Y and Z attachments for external conductors: soldered, welded, crimped, etc. connections allowed	MILITER MILITER MILITER	P
on on Tex on it y yunitex	For Class II transformer: reliance not placed upon soldering, crimping or welding alone unless by barriers, creepage distances and clearances between hazardous live parts and other conductive parts cannot be reduced to less than 50% of specified value (Cl.26) should conductor break away	PLIE WHITE WHITEK WHITEK	WELL THE WAY
23.2	Terminals for type X with special cords Y and Z attachments shall be suitable for their purpose:	TITEL MILES MATER	INLIER VIN PER
At .	- test by inspection according to 23.1 and 23.2	a st sit	J P
	- pull of 5 N to the connection before test according to 14.1	LIE WALLE WALL MA	P S
23.3	Other terminals than Y and Z attachments shall be so fixed that when the clamping means is tightened or loosened:	ex mile mile mil	N/A
all.	- terminal does not work loose	antite met wet	N/A

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
ALC: L	- internal wiring is not subjected to stress	MILE NOTE WATER	N/A
NALTEK NI	creepage distances and clearance are not reduced below the values specified in Cl. 26	THE LITTE MITTER.	N/A
23.4	Other terminals than Y and Z attachments shall be so designed that:	et tet tet o	N/A
y stiet	they clamp the conductor between metallic surfaces with sufficient contact pressure		N/A
	- without damage to the conductor	The Art Are	N/A
antiet a	- test by inspection according to 23.3 and 23.4	TEX TEX STE	N/A
NLTEX WY	- 10 times fastening and loosening a conductor with the largest cross-sectional area with 2/3 of the torque specified in Cl. 25	STEE WITE WITE	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	Et united united whi	N/A
23.6	Terminal blocks not accessible without the aid of a tool	MITEL MITEL MATER	N/A
23.7	Transformer with type X attachments: stranded conductor test (8 mm removed):	SLIEF WIEL MUIEL	N/A
ITEK MI	- Class I transformers: no connection between live parts and accessible metal parts	at July in	N/A
EK NITE	- free wire of earth terminal: no touching of live parts		N/A
WALTEX.	- 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	while while while	N/A
23.8	Terminals for a current > 25 A:	RLITER WALL WALL W	N/A
SER OUT	- pressure plate, or	at at at a	N/A
70	- two clamping screws	in mur mur mur	N/A
23.9	When terminal, other than protective earth conductor, screws loosened as far as possible, no contact:	WALTER WALTER WALTE	N/A
Mer 1	- between terminal screws and accessible metal parts	UNITED WALTER WALTER	N/A
LIFE WA	between terminal screws and accessible metal parts separated only by basic or supplementary insulation for Class II transformers	STER WHITER WHITER W	N/A
24	PROVISION FOR PROTECTIVE EARTHING	The The M	Р
24.1	Class I transformers: accessible conductive parts connected to earth terminal	UNITER WHITE WHITE	WILL MA

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic
WELL THE	Class II transformers: no provision for protective earth	Which white white	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	Nate Milit White whi	N/A
24.3	No risk of corrosion from contact between metal of earth terminal and other terminal	t night night ship	N/A
MITEK .	In case of earth terminal body of Al, no risk of corrosion from contact between Cu and Al	Tet Tet Tet	N/A
JEK S	Body of earth terminal or screws/nuts of brass or other metal resistant to corrosion	our on our	N/A
24.4	Resistance of connection between earth terminal and metal parts $\leq 0.1\Omega$ with a min. 25 A or 1,5 times rated input current at 1 min	et outet milet onit	N/A
24.5	Class I transformers with external flexible cables or cords:	TEX LIEX NITES	N/A
LITER .	current-carrying conductors becoming touch before the earth conductor	Mr. Mr. W	N/A
25	SCREWS AND CONNECTIONS	when the the t	N/A
25.1	Screwed connections withstand mechanical stresses	Et MAIER WI	N/A
EK WALTE	Screws transmitting contact pressure or likely to be tightened by the user or having a diameter < 2,8 mm, shall screw into metal	white white	N/A
WALTE.	Screws not of metal which is soft or liable to creep (Zn, Al)	WALTER WALTER WALTER	N/A
intiek on	Screws of insulating material: not used for electrical connection	LIER MILER WALTER W	N/A
JEK WAL	Screws not of insulating material if their replacement by metal screws can impair supplementary or reinforced insulation	sex unifer unifer uni	N/A
WILLEY .	Screws to be removed (replacement etc. of power supply cord) not of insulating material if their replacement by metal screws can impair basic insulation	WALTER WALTER	N/A
VILLER MA	For a screw in engagement with the threads of insulating material: No damage after torque test: diameter (mm); torque (Nm); ten times	TIER WILL MILES	N/A
EK WITE	For nuts and other screws: No damage after torque test: diameter (mm); torque (Nm); five times	et itet sitet soit	N/A
25.2	Screws in engagement with thread of insulating material:	All All All	N/A

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Clause	Requirement + Test	Result - Remark	Verdic	
WEST TO THE	- length of engagement ≥ 3 mm + 1/3 screw diameter or 8 mm whichever is shorter	White Marie A	N/A	
er in	- correct introduction into screw hole	ULIE WULL MULL MU	N/A	
25.3	Electrical connections: contact pressure not transmitted through insulating material	TEK MITEK MITEK MITE	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	A MILITER MILITER MILITER	N/A	
White v	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	united united united un	N/A	
TEX WITE	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	Et Multet Multet Multet	N/A	
25.5	Screws for current-carrying mechanical connections locked against loosening	Whitek whitek whiteh	N/A	
unliter w	Rivets for current-carrying connections subject to torsion locked against loosening	MITER MITER WATER WA	N/A	
25.6	Test of screwed glands with a torque according table 19. After the test no damage at the transformer and the gland.	EX WILLEY WHITE	N/A	
26	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION		uni Pari	
26.2	Creepage distances and clearances	A A A	P.	
26.2.1	General	white with any of	Р	
INTIEK VI	The creepage distance and clearance values are shown in Table 20 and Table 21.	NITER INCIER WAITER WAL	P	
26.2.2	Windings covered with adhesive tape		P	
K 21/2	- all insulating materials are classified according to IEC 60085 and IEC 60216 (all parts);	its water water with	N/A	
Miles	- the impulse voltage dielectric test of 6.1.2.2.1 of IEC 60664-1:2007 is fulfilled; and	White white white	Р	
WITE .	- test A of 26.2.4 is fulfilled	THE THE STEE OF	N/A	
26.2.3	Uncemented insulating parts pollution degree P2 or P3	Pollution degree 2	Р	
Et TE	- all isolating material are classified acc. to IEC 60085 and IEC 60216(all parts)		Р	
Mer	- values of pollution degree 1 are not applicable	ANITE WALL WALL	n P	
26.2.4	Cemented insulating parts	at the left	N/A	
200	- all isolating materials are classified acc. to IEC 60085 and IEC 60216(all parts)	white mer mer w	N/A	

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I		V	
	V	7	

C STATE	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
W. C.	- values of distance through insulation (dti) are fulfilled	MULTER MULTER MULTER MULTER	N/A	
المريد الما	creepage distances and clearances are not required	WILE MULLE MULLE MULL	N/A	
THE WILL	- test A of this sub clause is fulfilled	TEX SLIER WILL MILE AN	N/A	
at at	Test A	70	N/A	
ant	- thermal class	A MILE WILL WALL WALL	N/A	
LEP.	- working voltage	1 2 2 1	N/A	
ALTER AN	Test with three specially specimens, with uninsulated wires, without impregnation or potting	(see appended table)	N/A	
, 3,	Two of the three specimens are subjected to:	or me me	N/A	
TER WALTE	- the relevant humidity treatment according to 17.2 (48 h)	EX WILLEY WHILEY WHILE MY	N/A	
y viliter	the relevant dielectric strength test of 18.3 multiplied with factor 1,35	Wifex writer writer write	N/A	
WILLER W	- One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multiplied by the factor 1,35 immediately at the end of the last cycle with high temperature	MILIER WHITER WHITER	N/A	
nes ans	Impulse dielectric test according to 6.1.2.2.1 of IEC 60664-1:2007 – see Annex R of IEC 61558-1	White with w	N/A	
26.2.5	Enclosed parts (e.g. by impregnation or potting)	Considered (test B) fulfilled by internal construction of approved opto-coupler.	P	
26.2.5.1	The requirements of reduced values as stated for pollution degree 1 (P1) are fulfilled	MULL MULL MULL MULL	N/A	
ur u	- all isolating materials are classified acc. to IEC 60085 and IEC 60216(all parts)	REFER WALLE WALL WALL	N/A	
LIE WILL	Test B	tet lifet olifet solife sol	N/A	
e st	- thermal class	100	N/A	
MILL	- test voltage of 500 V or the working voltage	- ALTER MALTER MALTER MALL	N/A	
WALTEK W	Test with three specially specimens, potted or impregnated. The dielectric strength test is applied directly to the joint.	(see appended table)	N/A	
WELL N	Two of the three specimens are subjected to:	at at let let	N/A	
CENT TO	- the relevant humidity treatment according to 17.2 (48 h)	it was and and a	N/A	
M	- the relevant dielectric strength test of 18.3 multiplied with factor 1,25	MULTI WALL WALL WALL WAS	N/A	

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in the	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
MUTER AN	- 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	Whitek Multer Multer Mul	N/A	
itek wai ok	The three spacemen pass the Impulse dielectric test according to 6.1.2.2.1 of IEC 60664-1:2007—see Annex R of IEC 61558-1	TEK WALTER WALTER WALTE	N/A	
26.2.5.2	The requirements of distance through insulation (dti) are fulfilled. (P1 values are not required)	MULTER MULTER MULTER.	N/A	
711 2	- all isolating materials are classified acc. to IEC 60085 and IEC 60216(all parts)	antil mail mar an	N/A	
ve in	Test C	LIFE WITE WILL WILL	N/A	
all all	- thermal class	a state of	N/A	
2nc	- test voltage of 500 V or the working voltage	E WILL MILL WILL	N/A	
MULTER	- Test with three specimens, potted or impregnated. (finished components)	(see appended table)	N/A	
WILLER ON	- Neither cracks, nor voids in the insulating compounds	Tet Jet Stet 10	N/A	
·	Two of the three specimens are subjected to:	The The The The	N/A	
LITE WAL	- the relevant humidity treatment according to 17.2 (48 h)	THE MILE MILE	N/A	
ER WITE	- the relevant dielectric strength test of 18.3 multiplied with factor 1,35	MILIE WALLE	N/A	
WILLER V	- One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multiplied by the factor 1,35 immediately at the end of the last cycle with high temperature	Whilek whilek whilek w	N/A	
TEK MIT	The three spacemen pass the Impulse dielectric test according to 6.1.2.2.1 of IEC 60664-1:2007 – see Annex R of IEC 61558-1	Et TEX LIFE DUTE	N/A	
26.3	Distance through insulation	14 14 20	Р	
26.3.1	For supplementary, double or reinforced insulation, the required values of Tables 22 are fulfilled	MULTER WALTER MALTE	Р	
WALTER W	The insulation fulfil the material classification according IEC 60085 and 60216(all parts) or the test of 14.3	united whited whited wh	P P	
26.3.2	Reduced values of the thickness of insulation for supplementary or reinforced insulation are allowed if the following conditions are fulfilled:	THE MUTTER MUTTER MUTT	N/A	
- 18x	- the isolating materials are classified acc. to IEC 60085 and IEC 60216(all parts)	mi me m	N/A	
Myr.	- the test of 14.3 is fulfilled	SLIE MITE SPLIE	N/A	

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	4	V	N
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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdic	
WILLER AND	- If both requirements are fulfilled, the required values for solid insulation can be multiplied by 0,4	White white white white	N/A	
LIEN NLI	- Minimum thickness of reinforced insulation ≥0,2 mm	at all the tree	N/A	
et set	- Minimum thickness of supplementary insulation ≥0,1 mm	Mrs. And And	N/A	
26.3.3	Insulation in thin sheet form	aury aury aury au	Р	
WALTER	If the layers are non-separable (glued together):	NUTER WHITE WHITE	N/A	
it.	The requirement of 3 layers is fulfilled	and the set of	N/A	
	The mandrel test according 26.3.4 is fulfilled with 150±10 N	NITE WHITE WHITE WHITE	N/A	
r nur	The required values for d.t.i. of thin layers in Tables 22 is fulfilled.	EK WILLE MULL MULL M	N/A	
Marie	- If the layers are separated:	- LIER NITER WITER WAS	Р	
MALTEK W	The requirement of 2 layers is fulfilled	Insulation tape wrap around external of switch mode transformer	PK	
LIEK WAL	If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required	THE WALTER WALTER	N/A	
WILLE	The mandrel test according 26.3.4 is fulfilled on each layer with 50±5 N	MILIE WALTER WALTER WA	P	
WALTER.	The required values for d.t.i. of thin layers in Tale 22 is fulfilled.	UNLIER WALTER WALTER WALT	Pre	
TEX	- If the layers are separated (alternative):	a state of	N/A	
11 24	The requirement of 3 layers is fulfilled	Will Must mer must	N/A	
IEK WILL	If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required	SEE MILITER WHITER WHITER W	N/A	
Milk	The mandrel test according 26.3.4 is fulfilled on 2/3 of the layers with 100±5 N	White white while wh	N/A	
WILLEY	The required values for d.t.i. of thin layers in Tale 22 is fulfilled.	UNITER WHITEK WHITEK WHITE	N/A	
riter mu	Test according to 14.3 and if the isolating materials are classified acc. to IEC 60085 and IEC 60216(all parts) no distances through insulation are required for insulation in thin sheet form	TER MUTER MUTER	N/A	
- (4E)*	The values for thin layers are used for insulation in thin sheet form as follows:	me me m	P	
'n'.	- rated output > 100 VA values for thin layers apply	MULL MULL MULL MULL MINE	N/A	

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<b>V</b>

- 21/2	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdic		
VIII.	- rated output ≥ 25 VA and ≤ 100 VA 2/3 of the values for thin layers apply	while while while w	Р		
ale a	- rated output < 25 VA 1/3 of the values for thin layers apply	nette unit white whi	N/A		
26.3.4	Mandrel test of insulation in thin sheet form (specimen of 70±0,5 mm width are necessary):	The writer writer writer	P		
CAUTAGE	- If the layers are non-separable – at least 3 layers glued together fulfil the test:	MILIER WALTER WALTER	N/A		
CLIER	- pull force of 150±10 N	Let The State o	N/A		
INTLEK AN	- high voltage test of 5,0 kV or the test voltage of 18.3 multiplied by 1,35 whatever is the greater. No flashover, no breakdown.	STEE STEEL SUITER SUITE	N/A		
IEK MIT	- If the layers are separable and 2/3 of at least 3 layers fulfil the test.	et tet tret stret	N/A		
	- pull force of 100±5 N	24, 24, 24,	N/A		
MULT	<ul> <li>high voltage test of 5,0 kV or the test voltage of 18.3 multiplied by 1,25 whatever is the greater.</li> <li>No flashover, no breakdowns.</li> </ul>	JUNITER WHITE WHITE V	N/A		
any a	- If the layers are separable 1 of at least 2 layers fulfil the test:	unite white white wh	, P		
VILL MUT	- pull force of 50±5 N	EF CALLE MILE	y Py		
iek walte	- 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.	JULIE WILLEY	uni EK P		
26.3.5	For transformers with FIW wires	at at the	N/A		
711 .	- thermal cycles	write new me m	N/A		
LITER 10	- test voltage of 500 V or the working voltage	at at alt of	N/A		
in, 2,	- Test with three specimens	(see appended table)	N/A		
ITER SINIT	Two of the three specimens are subjected to:	at the the stee	N/A		
et stet	- the relevant humidity treatment according to 17.2 (48 h)	and soll soll	N/A		
10	- the relevant dielectric strength test of 18.3	MULL MULL MAN A	N/A		
VILLE V	- One of the three specimens is subjected to the relevant dielectric strength test of 18.3 immediately at the end of the last cycle with high temperature	unifek whilek whilek wh	N/A		
TEX WALTE	The partial discharge test shall be done at the end of the cycling test at normal room temperature as performed in 18.3.1.	of street street south	N/A		
WALTER	The values of allowed voltage strength for other FIW dimensions than defined in Table 24 are calculated	MITEL MILIER WALFER	N/A		

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Clause	Requirement + Test	Result - Remark	Verdict	
26.101	Creepage distances and distances through insulation given in Table 21, Table 22 and Table 23 of IEC 61558-1:2017 are generally applicable (IEC 61558-2-16: 2021)	(see appended table)	P	
26.102	In compliance with IEC 60664-4:2005, the requirements of 26.103 to 26.106 for creepage distances, clearances and solid insulation are required above 30 kHz and up to the frequency of 3 MHz. For frequencies above 3 MHz, the tests in accordance with 7.4 and 7.5 of IEC 60664-4:2005, high-frequency testing (high-frequency high-voltage test and high-frequency partial discharge test) shall be carried out.	TEK WILLEK WILLEK WILLEK  WILLEK WILLEK  WILLEK WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK  WILLEK	AUDITE PONT	
26.103	Clearance (IEC 61558-2-16:2021)	at all the	P	
ilik ili Ili ili	<ul> <li>a) Clearance for frequency ≥ 30 kHz according figure 101 two determinations are necessary:</li> </ul>	sere much much much	N/A	
y whi	determination based on the rated impulse voltage of the rated supply voltage in accordance with Table 103 and Table 104.	ex white white white	N/A	
Th.	determination based on the measured peak working voltage in accordance with Table 106.	mer mer me	N/A	
	b) Clearance for frequency ≤ 30 kHz according figure 101 two determinations are necessary:	UNLIER WALTER WALTER WAS	, P	
ALTE WAY	determination based on the rated impulse voltage of the rated supply voltage in accordance with Table 103 and Table 104.	THE WALLES	P	
White	determination based on the measured peak working voltage in accordance with Table 105.	antie white while	uni Pri	
26.104	The working voltages of Table 105 and Table 106 for determination of clearances are peak working voltages. (IEC 61558-2-16: 2021)	MILIEK WHITEK WHITEK	NA PARK	
unliek un	All peak working voltages including µs-peaks shall be used to determine clearances in accordance with Table 105 and Table 106.	NITER WHITER WHITER WHI	EF WITP	
26.105	Creepage distances (IEC 61558-2-16: 2021)	at at at all	Р	
*	Two determinations of creepage distances are necessary (see Figure 102)	which must me	P	
MATER WAS	<ul> <li>determination based on the measured RMS working voltage in accordance with Table 21 of IEC 61558-1:2017;</li> </ul>	White white white	P	
	determination based on the measured peak working voltage in accordance with Table 107 to Table 112 and the fundamental frequency shall be considered	Multer Mult Multer Mult	AUTER M	
TEK MITE	A high-frequency RMS ripple voltage content not more than 10% can be neglected.	II A THE THE NATION	IN THE P	
MILIER	The values in Table 107 to Table 112 do not take into account the effects of tracking phenomena for frequencies above 30 kHz.	TEK STIEK STIEK	P P	

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ill with	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
MILITEE OUT	The most severe value of the required creepage distances in accordance with Table 107 to Table 112 for frequencies above 30 kHz and the relevant values in Table 21 of IEC 61558-1:2017 shall take precedence.	White white white wh	P MILES		
irin war Ek wirek	If the value of the creepage distance is lower than the value of the clearance, the value of the clearance shall be applicable for the creepage distance.	tek white white white	Pur Pur		
Junitest 4	The peak working voltage also includes any DC voltage and any repetitive peak impulse generated by the SMPS (see 26.105). A determination based on RMS values is also required (see 26.104 and Table 112).	untitle while white w	N/A		
26.106	Distance through insulation (IEC 61558-2-16:2021)	LITER MILE WALL WALL	P A		
TEK WITE K TEK	Instead of partial discharge with high frequency voltage the test of the distance and the calculation of the electric field is applicable under the following conditions:	EX MILIER MILIER MILIER	TEL P		
ne	- the max. frequency is < 10 MHz	White While White A	Р		
WALLEK ON	- the field strength approximately comply with Figure 103	THE STEET WITH WAY	TEX PX		
LIEK UNL	<ul> <li>no voids or gaps are present in between the solid insulation</li> </ul>	THE STATE OF THE	F P		
Et TE	For thick layers d1 $\geq$ 0,75 the peak value of the field strength is $\leq$ 2 kV/mm	The state	N/A		
	For thin layers d2 $\leq$ 30 $\mu$ m the peak value of the field strength is $\leq$ 10 kV/mm	mai mi ma	N/A		
mr.	For d1 > d > d2 formula (2) is used for calculation the field strength	White white whit w	N/A		
27	RESISTANCE TO HEAT, FIRE AND TRACKING		Р		
27.1	General		Р		
27.2	Resistance to heat	TEX WITE MUTE MUTE	The Bru		
27.2.1	All insulating parts are resistant to heat	The state of	Z PZ		
MUL	For parts of rubber, which passed the test of 19.9, no additional test is required.	No rubber used	N/A		
JUNITE V	The tests are not required for cables and small connectors with a rated current ≤ 3 A, a rated voltage ≤ 24 V AC or 60 V DC and a power ≤ 72 W	uniter uniter uniter un	y yet		
27.2.2	External accessible parts	itte mit mit mit	Р		
iek waife Lifek	The Ball-pressure test: diameter of impression ≤ 2 mm; heating cabinet temperature (°C) at 70±2 °C or the temperature T of 14.1 (T+15±2) is fulfilled.	(See appended table)	THE PART		
27.2.3	Internal parts	MULL MULL MULL M	Р		

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	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdic		
unliek unliek Tek	For insulating material retaining current carrying parts in position, the ball-pressure test -: diameter of impression ≤ 2 mm; heating cabinet temperature (°C) at 125±2 °C or the temperature T of 14.1 (T + 15±2) is fulfilled	(See appended table)	P		
27.3	Resistance to abnormal heat under fault conditions	the mil mi	N/A		
27.4	Resistance to fire	t at let set.	P		
27.4.1	All isolating parts of the transformer shall be resistant to ignition and spread of fire. The test according to IEC 60695-2-10 is required	itet sitet mitet uni	P		
27.4.2	External accessible parts (glow wire tests)	N. 24 2	Р		
Vr. Col.	- 650°C for enclosures	LIET WILL WILL WILL	P		
TEX WILL	- 650 °C for parts retaining current carrying parts in position and terminals for external conductors Current ≤ 0,2 A	Et unifet unifet unifet	UN TEK P		
WALTER	- 750° C for parts retaining current carrying parts in position and terminals for external conductors with fixed wiring. Current > 0,2 A	Whitek whitek whitek wh	N/A		
olver A	- 850° C for parts retaining current carrying parts in position and terminals for external conductors with non-fixed wiring. Current > 0,2 A	SPLIFER WHITE WHITE WHITE	N/A		
27.4.3	Internal parts		P		
Mur	- 550 °C for internal insulating material – not retaining current carrying parts in position	unite unite unit	N/A		
antie.	- 650 °C for coil formers (bobbins)	T1 get get gift no	Р		
INLTEX W	- 650 °C for parts retaining current carrying parts in position and terminals for external conductors. Current ≤ 0,2 A	NITER WILLER WALLER	N/A		
TEK WAL	- 750 °C for parts retaining current carrying parts in position and terminals for external conductors with fixed wiring. Current > 0,2 A	Bobbin, PCB	UN TIE P		
	- 850 °C for parts retaining current carrying parts in position and terminals for external conductors with non-fixed wiring. Current > 0,2 A	- Whitek whitek whitek wh	N/A		
27.5	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 IIIb	TER MUTER MUTER MUTER	N/A		
ie white	Material group IIIb (100≤CTI≤175) is not recommended for application in pollution degree 3 above 630V	MULTER MULTER MULTER O	N/A		

N/A

Test (175 V): no flashover or breakdown before 50 drops

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Trace 100 to 100 100 100 100 100 100 100 100 100 10				
TER WITE	WILL MILL MULT M	IEC 61558-2-16	ek tek tiek stie	WITE WALTE
Clause	Requirement + Test	EK STER WHIT WILL	Result - Remark	Verdict

28	RESISTANCE TO RUSTING	N/A
SUIET IN	Ferrous parts protected against rusting	N/A
ANNEX E	GLOW WIRE TEST	Р
E.1	The test is required according to IEC 60695-2-10 and IEC 60695-2-11 with the following additions:	WILL B
E.2	The requirements of 8.2, "Test temperatures" of IEC 60695-2-11:2014, apply with the temperature stated in 27.4 of IEC 61558-1	Р
E.3	Clause 7, "Conditioning", of IEC 60695-2-11:2014 apply, preconditioning is required	Р
E.4	Clause 8, "Test procedure", of IEC 60695-2-11:2014 apply, the tip of the glow wire is applied to the flat side of the surface.	IN P
ANNEX F	REQUIREMENTS FOR MANUALLY OPERATED SWITCHES WHICH ARE PARTS OF THE TRANSFORMER	N/A
F.2	Manually operated mechanical switches, tested as separate component, shall comply with IEC 61058:2016 under the conditions of F.2.	N/A
F.3	Manually operated mechanical switches tested as part of the transformer shall comply with the conditions specified under F.3	N/A
ANNEX H	ELECTRONIC CIRCUITS	
H.1 NITE	For transformers including electronic circuits, the following requirements apply additionally to Clauses 5, 15, 26. This annex is not required for associated transformers	ne Pa
H.2	General notes on tests (addition to clause 5)	Р
H.3	SHORT-CIRCUIT AND OVERLOAD PROTECTION (ADDITION TO CLAUSE 15)	P
H.3.1	Circuits designed and applied so that fault conditions do not render the appliance unsafe	P
72,	During and after each test:	Р
WALTER.	- temperatures do not exceed values specified in table 5	P
WALTEK WA	- transformer complies with conditions specified in sub-clause 15.1	EK PEK
er er	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	N/A
	Fault conditions a) to f) of sub-clause H.3.3 are not	N. Bu
H.3.2	tested if the following conditions are met:	

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	A	7	K
I		V	
	V	7	

	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
WALLEY W	- safety of the appliance as specified does not rely on correct functioning of the electronic circuit	JUNITER WHITE WHITE W	P		
H.3.3	Fault conditions tested as specified when relevant:	12 m 24	Р		
it with	a) short-circuit of creepage distances and clearances, if less than specified in Cl. 26	TER WHITE WHITE WHITE	N/A		
ER JULIE	b) open circuit at the terminals of any component	t THE THE NITER	P		
LIFER	c) short-circuit of capacitors, unless they comply with IEC 60 384-14	and and and	PL		
III .	d) short-circuit of any two terminals of an electronic component as specified	mer and an a	P		
hr a	e) any failure of an integrated circuit as specified	the write mi me	N/A		
TEK WALT	f) low-power circuit: low-power points are connected to the supply source	EX STEX WIFE MITE	TEL P INT		
y whitek	Cl. 15 is repeated with a simulated fault as indicated in a) to e), if the transformer incorporates an electronic circuit to ensure compliance with Cl. 15	MALTER MALTER WALTER	N/A		
ant a	Fault condition e) is applied for encapsulated and similar components	JULIER WHITE WHITE WA	N/A		
VILL MU	PTC's and NTC's are not short-circuited if they are used as specified	TET WILL	N/A		
H.3.4	If for a fuse-link complying with IEC 60 127-3 rated fuse current I1 is used, current I2 is measured as specified:	White while while	P		
mr.	- if I2 < 2,1 x I1 test of 15.8 is repeated with fuse- link short-circuited	White white white w	N/A		
Willey ou	- if I2 > 2,75 x I1, no other tests are necessary	TEL LIER NITER IN	N/A		
TEK ST	If I2 > 2,1 x I1 and I2 < 2,75 x I1 test of 15.8 is repeated as specified	of the sur se	N/A		
ek whitek	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	TEX SITES INTEX	P		
H.4	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES (ADDITION TO CLAUSE 26)	STANCES THROUGH	N/A		
H.4.1	For live parts separated by basic insulation smaller cr and cl as in 26 are allowed, if H.3 is fulfilled.	Mer and any and	N/A		
L. 24	In optocouplers no requirements of cr and cl	rie mr. mr. mr.	N/A		
TER WITE	For coatings annex W applies. Smaller distances as required in IEC 60664-3:2016, clause 4 are applicable,	ex uniter politer uniter	N/A		
MATIL	For potted transformers cycling tests according to 26.2. are applicable	WALTER WALTER WALTER	N/A		

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Verdic				
N/A				

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ie Wille	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
MULTI	Mandrel diameter according table K.1	WATER WATER WATER	N/A	
WILLER M	The tension to the wire during winding on mandrel is 118 N/mm² (118 MPa)	ALTEK MALTER MALTER	N/A	
K.2.4	Heat shock	4 4 4	N/A	
ik ilik	Test samples prepared according to 3.2.1 (in Test 9) of IEC 60851-6:2012	ite mit mit m	N/A	
WILL	high voltage test immediately after this test	A WILLER WILLIAM MALLER	N/A	
WALTER	Dielectric strength test: 5,5 kV for reinforced insulation	LIEK SLIEK WLIEK	N/A	
NLTEX NO	Dielectric strength test: 2,75 kV for basic or supplementary insulation	all the state of	N/A	
K.2.5	Retention of dielectric strength after bending (test as specified under test 13 of 4.6.1 c) of IEC 60 851-5)	Et Wilet Wilet Mi	N/A	
# TEX	high voltage test immediately after this test	1 1 11	N/A	
n.	Dielectric strength test: 5,5 kV for reinforced insulation	Murie Muri Muri	N/A	
MULL M	Dielectric strength test: 2,75 kV for basic or supplementary insulation	JULIER WALTER WALTER	N/A	
K.3	Testing during manufacturing	At A STEEL OF	N/A	
K.3.1	General Tests as subjected in K.3.2 and K.3.3		N/A	
K.3.2	Routine test	any any any	N/A	
MULTER	Dielectric strength test: 4,2 kV for reinforced insulation	WALTER WALTER WALTER	N/A	
MALTER W	Dielectric strength test: 2,1 kV for basic or supplementary insulation	NITER MILIER WALTER	N/A	
K.3.3	Sampling test	at the set of	/ N/A	
K.3.3.1	Solid circular winding wires and stranded winding wires	in min and an	N/A	
M	Test with a twisted pair, prepared according clause 4.4.1 of IEC 60851-5:2008	MUTTE WILL MILL	N/A	
MUTTE A	Dielectric strength test: 6 kV for reinforced insulation	UNLIER WALTER WHITE.	N/A	
NITER WA	Dielectric strength test: 3 kV for basic or supplementary insulation	LIEK WHITEK WHITEK W	N/A	
K.3.3.2	Square or rectangular wire	at at at 5	N/A	
+ (E)+	Samples prepared according to clause 4.7.1 of IEC 60851-5:2008	Mer Aur Au	N/A	
Aller.	Dielectric strength test: 5,5 kV for reinforced insulation	MULLE MULL MULL	N/A	

Reference	e No.: WTX22X12243522S	Page 62 of 138		
TER WIT	white with our on	IEC 61558-2-16	At All oth of	ER WILLE WALL
Clause	Requirement + Test	EX MULTER MULT A	Result - Remark	Verdict
ANGES.	Dielectric strength test:     supplementary insulat		MULICANUTE MILITE	N/A

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TER NITER	IEC 61558-2-16				
Clause	Requirement + Test	ex with white whi	Result - Remark	Verdict	

ANNEX V	ANNEX V, SYMBOLS TO BE USED FOR THERMAL CUT-OUTS	
Figure V.1	Restored by manual operation	N/A
Figure V.2	Restored by disconnection of the supply    Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of the supply   Head of	N/A
Figure V.3	Thermal link	N/A
Figure V.4	Self-resetting thermal cut-out	N/A

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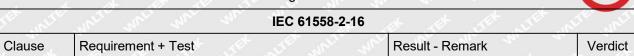
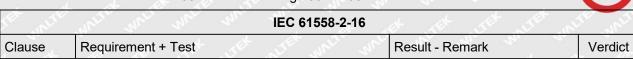


Table			TPUT VOLT		OUTPUT CU	RRENT UNDE	R LOAD;
type/rated output// output         voltage (V)         voltage (V)         Usec (%)         no-load output         no-load output %         further information           Model: GTM96300-2307.5-2.5-T3         5         4.901         -1.98         5.19         5.9         100V/50Hz           Model: GTM96300-3619.5-1.5-T3         5         4.901         -1.98         5.18         5.7         240V/50Hz           Model: GTM96300-3619.5-1.5-T3         18         17.94         -0.33         18.25         1.7         100V/50Hz           Model: GTM96300-3648-T2         18         17.95         -0.28         18.24         1.6         100V/60Hz           Model: GTM96300-3648-T2         48         47.99         -0.02         48.33         0.70         100V/50Hz           Model: GTM96300-3656-T3         56         55.21         -1.41         55.41         0.36         100V/50Hz           Model: GTM96300-3656-T3         56         55.21         -1.41         55.40         0.36         100V/50Hz           Model: GTM96300-3656-T3         56         55.21         -1.41         55.40         0.36         240V/50Hz           Model: GTM96300-3656-T3         56         55.20         -1.43         55.40         0.36         240V/50Hz	Clause		1	1		12	
Model: GTM96300-2307.5-2.5-T3   5   4.901   -1.98   5.19   5.9   100V/60Hz   5   4.901   -1.98   5.18   5.7   240V/50Hz   5   4.901   -1.98   5.18   5.7   240V/50Hz   5   4.901   -1.98   5.19   5.9   240V/60Hz   18   17.94   -0.33   18.25   1.7   100V/50Hz   18   17.95   -0.28   18.24   1.6   100V/60Hz   18   17.95   -0.28   18.24   1.6   240V/50Hz   18   17.95   -0.28   18.25   1.7   240V/60Hz   18   17.95   -0.28   18.25   1.7   240V/60Hz   240V/60Hz   240V/50Hz   2		voltage	voltage	Usec	no-load	no-load	further information
GTM96300- 2307.5-2.5-T3	NITE OF	5	4.901	-1.98	5.19	5.9	100V/50Hz
2307.5-2.5-T3  5		5,4	4.901	-1.98	5.19	5.9	100V/60Hz
Model: GTM96300-3619.5-1.5-T3			4.901	-1.98	5.18	5.7	240V/50Hz
Model: GTM96300- 3619.5-1.5-T3         18         17.95         -0.28         18.24         1.6         100V/60Hz           Model: GTM96300- 3648-T2         48         47.99         -0.28         18.25         1.7         240V/60Hz           Model: GTM96300- 3648-T2         48         47.99         -0.02         48.33         0.70         100V/50Hz           Model: GTM96300- 3656-T3         48         47.99         -0.02         48.33         0.70         240V/50Hz           Model: GTM96300- 3656-T3         56         55.21         -1.41         55.41         0.36         100V/50Hz           Model: GTM91120- 3007.5-2.5-T3A         5         4.83         -3.4         5.19         7.7         100V/50Hz           Model: GTM91120- 3048-T2         5         4.83         -3.4         5.19         7.5         240V/50Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/50Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/50Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz		26	4.901	-1.98	5.19	5.9	240V/60Hz
GTM96300- 3619.5-1.5-T3    18	LIER WITE	18	17.94	-0.33	18.25	1.7	100V/50Hz
3619.5-1.5-T3         18         17.95         -0.28         18.24         1.6         240V/50Hz           18         17.95         -0.28         18.25         1.7         240V/60Hz           48         47.99         -0.02         48.33         0.70         100V/50Hz           48         47.99         -0.02         48.33         0.70         240V/50Hz           56         55.21         -1.41         55.41         0.36         100V/50Hz           56         55.21         -1.41         55.40         0.34         100V/50Hz           56         55.20         -1.43         55.40         0.36         240V/50Hz           56         55.20         -1.43         55.40         0.36         240V/60Hz           5         4.82         -3.6         5.19         7.7         100V/50Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz		18	17.95	-0.28	18.24	1.6	100V/60Hz
Model: GTM96300- 3648-T2         48         47.99         -0.02         48.33         0.70         100V/50Hz           Model: GTM96300- 3648-T2         48         47.99         -0.02         48.33         0.70         240V/50Hz           Model: GTM96300- 3656-T3         56         55.21         -1.41         55.41         0.36         100V/50Hz           Model: GTM91120- 3007.5-2.5-T3A         5         4.82         -3.6         5.19         7.7         100V/50Hz           Model: GTM91120- 3048-T2         5         4.83         -3.4         5.19         7.5         100V/60Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/50Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/50Hz		10	17.95	-0.28	18.24	1.6	240V/50Hz
Model: GTM96300- 3648-T2         48         47.99         -0.02         48.33         0.70         100V/60Hz           48         47.98         -0.04         48.33         0.70         240V/50Hz           48         47.99         -0.02         48.33         0.70         240V/60Hz           56         55.21         -1.41         55.41         0.36         100V/50Hz           56         55.21         -1.41         55.40         0.34         100V/60Hz           56         55.20         -1.43         55.40         0.36         240V/50Hz           56         55.20         -1.43         55.40         0.36         240V/60Hz           Model: GTM91120- 3007.5-2.5-T3A         5         4.83         -3.4         5.19         7.7         100V/50Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/50Hz           48         47.7         -0.63         48.42         1.5         100V/60Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz	24, ,	18	17.95	-0.28	18.25	1.7	240V/60Hz
GTM96300- 3648-T2  48	TEN STE	48	47.99	-0.02	48.33	0.70	100V/50Hz
3648-T2       48       47.98       -0.04       48.33       0.70       240V/50Hz         48       47.99       -0.02       48.33       0.70       240V/60Hz         56       55.21       -1.41       55.41       0.36       100V/50Hz         56       55.21       -1.41       55.40       0.34       100V/60Hz         56       55.20       -1.43       55.40       0.36       240V/50Hz         56       55.20       -1.43       55.40       0.36       240V/60Hz         56       55.20       -1.43       55.40       0.36       240V/60Hz         5       4.82       -3.6       5.19       7.7       100V/50Hz         5       4.83       -3.4       5.19       7.5       100V/60Hz         5       4.83       -3.4       5.19       7.5       240V/50Hz         5       4.83       -3.4       5.19       7.5       240V/60Hz         48       47.7       -0.63       48.42       1.5       100V/60Hz         48       47.7       -0.63       48.42       1.5       100V/60Hz         48       47.7       -0.63       48.42       1.5       100V/60Hz <td></td> <td>48</td> <td>47.99</td> <td>-0.02</td> <td>48.33</td> <td>0.70</td> <td>100V/60Hz</td>		48	47.99	-0.02	48.33	0.70	100V/60Hz
Model: GTM96300- 3656-T3         56         55.21         -1.41         55.41         0.36         100V/50Hz           56         55.21         -1.41         55.40         0.34         100V/60Hz           56         55.20         -1.43         55.40         0.36         240V/50Hz           56         55.20         -1.43         55.40         0.36         240V/60Hz           5         4.82         -3.6         5.19         7.7         100V/50Hz           5         4.83         -3.4         5.19         7.5         100V/60Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           6         48         47.7         -0.63         48.42         1.5         100V/50Hz           100         48         47.7         -0.63         48.42         1.5         100V/50Hz           100         48         47.7         -0.63         48.42         1.5         100V/50Hz           100         48         47.7         -0.6		48	47.98	-0.04	48.33	0.70	240V/50Hz
Model: GTM96300- 3656-T3         56         55.21         -1.41         55.40         0.34         100V/60Hz           56         55.20         -1.43         55.40         0.36         240V/50Hz           56         55.20         -1.43         55.40         0.36         240V/60Hz           Model: GTM91120- 3007.5-2.5-T3A         5         4.82         -3.6         5.19         7.7         100V/60Hz           5         4.83         -3.4         5.19         7.5         100V/60Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           5         4.83         -3.4         5.19         7.5         240V/60Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/50Hz           48         47.7         -0.63         48.42         1.5         100V/60Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz		48	47.99	-0.02	48.33	0.70	240V/60Hz
GTM96300- 3656-T3  56  55.20  -1.43  55.40  0.36  240V/50Hz  56  55.20  -1.43  55.40  0.36  240V/60Hz  56  55.20  -1.43  55.40  0.36  240V/60Hz  56  57.7  100V/50Hz  57.7  100V/50Hz  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57.8  57	THE TO	56	55.21	-1.41	55.41	0.36	100V/50Hz
3656-T3         56         55.20         -1.43         55.40         0.36         240V/50Hz           56         55.20         -1.43         55.40         0.36         240V/60Hz           5         4.82         -3.6         5.19         7.7         100V/50Hz           5         4.83         -3.4         5.19         7.5         100V/60Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           5         4.83         -3.4         5.19         7.5         240V/60Hz           5         4.83         -3.4         5.19         7.5         240V/60Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz           48         47.7         -0.63         48.42         1.5         100V/60Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz           48         47.7         -0.63         48.42         1.5         240V/50Hz			55.21	-1.41	55.40	0.34	100V/60Hz
Model: GTM91120-3007.5-2.5-T3A         4.83         -3.4         5.19         7.5         100V/50Hz           Model: GTM91120-3007.5-2.5-T3A         5         4.83         -3.4         5.19         7.5         100V/60Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           5         4.83         -3.4         5.19         7.5         240V/60Hz           5         4.83         -3.4         5.19         7.5         240V/60Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz           48         47.7         -0.63         48.42         1.5         100V/60Hz           48         47.7         -0.63         48.42         1.5         240V/50Hz		56	55.20	-1.43	55.40	0.36	240V/50Hz
Model: GTM91120- 3007.5-2.5-T3A         5         4.83         -3.4         5.19         7.5         100V/60Hz           5         4.83         -3.4         5.19         7.5         240V/50Hz           5         4.83         -3.4         5.19         7.5         240V/60Hz           48         47.7         -0.63         48.42         1.5         100V/50Hz           Model: GTM91120- 3048-T2         48         47.7         -0.63         48.42         1.5         100V/60Hz           48         47.7         -0.63         48.42         1.5         240V/50Hz	21/2	56	55.20	-1.43	55.40	0.36	240V/60Hz
GTM91120- 3007.5-2.5-T3A	All C	5	4.82	-3.6	5.19	7.7	100V/50Hz
3007.5-2.5-T3A     5     4.83     -3.4     5.19     7.5     240V/50Hz       5     4.83     -3.4     5.19     7.5     240V/60Hz       48     47.7     -0.63     48.42     1.5     100V/50Hz       Model: GTM91120- 3048-T2     48     47.7     -0.63     48.42     1.5     100V/60Hz       48     47.7     -0.63     48.42     1.5     240V/50Hz		5	4.83	-3.4	5.19	7.5	100V/60Hz
5     4.83     -3.4     5.19     7.5     240V/60Hz       48     47.7     -0.63     48.42     1.5     100V/50Hz       Model: GTM91120- 3048-T2     48     47.7     -0.63     48.42     1.5     100V/60Hz       48     47.7     -0.63     48.42     1.5     240V/50Hz			4.83	-3.4	5.19	7.5	240V/50Hz
Model: GTM91120- 3048-T2     48     47.7     -0.63     48.42     1.5     100V/60Hz       48     47.7     -0.63     48.42     1.5     240V/50Hz	0007.0 2.0-1		4.83	-3.4	5.19	7.5	240V/60Hz
Model: GTM91120- 3048-T2     48     47.7     -0.63     48.42     1.5     100V/60Hz       48     47.7     -0.63     48.42     1.5     240V/50Hz	CEL TEX	48	47.7	-0.63	48.42	1.5	100V/50Hz
3048-T2 48 47.7 -0.63 48.42 1.5 240V/50Hz			47.7	-0.63	48.42	1.5	100V/60Hz
		48	47.7	-0.63	48.42	1.5	240V/50Hz
	0040-12	48	47.7	-0.63	48.42	1.5	240V/60Hz
Limits ±10 ±20	Limits	Et 325	11 - N	±10	11, 1,,	±20	at at the st

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14	TABLE: Heating Test	WITE OF	THE WAL	- Mrs.	n i	Р
WALTER.	Supply voltage (V)	110V/60 Hz	110V/60 Hz	264V/50 Hz	264V/50 Hz	_
ALTEK WI	Ambient (°C)	See below	See below	See below	See below	_
Maximu	m measured temperature T of part/at:		Т (	°C)		max. temperature limit, (°C)
- WALTER	MALTER WALLE WHILE WALL WALL	Label up	Label down	Label up	Label down	ALTER WALTER
Model: 0	GTM96300-2307.5-2.5-T3	100 211	1,1	2.	`	et et
Appliand	ce inlet	54.3	54.0	51.5	52.3	70
Varistor	MOV1	55.3	56.5	52.6	52.0	85
Choke w	vinding (LF1)	67.5	71.1	64.9	61.7	130
X capac	itor (CX1)	65.4	66.5	61.5	60.9	110
C1 body	Muer Mus Mus Mus Mills	68.5	72.2	65.9	62.6	105
PCB und	der BD1	83.3	83.8	84.8	84.3	130
Optocou	pler (U3)	84.3	84.8	87.3	87.3	100
Y capac	itor (CY1)	78.5	78.8	80.0	79.4	125
Transfor	mer (T1) core	95.2	94.1	96.0	97.0	110
Transfor	mer (T1) winding	87.3	86.3	88.0	88.9	110
E-Cap (	C4)	82.4	82.1	82.7	82.8	105
Output v	vire	64.8	67.9	64.2	64.9	80
Enclosu	re inside above T1	71.1	58.8	70.2	71.2	Ref.
Enclosu	re inside under T1	67.2	69.8	69.9	69.4	Ref.
Enclosu	re outside above T1	63.3	58.5	62.4	63.5	80
Enclosu	re outside under T1	60.7	65.1	64.8	62.9	80
Support	near pin	58.5	64.6	56.8	53.4	85
Ambient		40.0	40.0	40.0	40.0	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
Model: 0	GTM96300-3619.5-1.5-T3					
Applianc	ce inlet	60.7	60.0	55.1	55.4	70
Varistor	MOV1	64.9	65.9	56.7	57.9	85
Choke w	vinding (LF1)	102.5	103.9	77.8	80.6	130
X capac	itor (CX1)	83.3	82.5	70.4	70.8	110
C1 body	the August Augus	98.5	96.5	88.3	87.8	105
PCB und	der BD1	99.1	103.3	86.0	90.9	130
Optocou	pler (U3)	93.8	94.0	91.1	92.6	100
Y capac	itor (CY1)	90.4	90.3	87.8	87.9	125
Transfor	mer (T1) core	108.7	107.2	106.1	104.8	110
Transfor	mer (T1) winding	104.0	102.7	103.6	101.7	110

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		IEC 61	558-2-1	6			INLIE WAL
Clause	Requirement + Test	ik waliek.	WELL	Resi	ult - Remar	k	Verdict
E-Cap (C4		-e*	89.5	89.1	87.8	87.7	105
Output wir		aris wi	73.2	73.7	72.4	72.5	80
	inside above T1	A 1	83.6	80.3	82.2	78.8	Ref.
Enclosure	inside under T1	Very Muy	73.2	73.8	71.7	74.2	Ref.
Enclosure	outside above T1	L .+	71.6	66.0	71.0	66.1	80
Enclosure	outside under T1	The same	65.6	67.0	64.7	68.1	80
Support ne	ear pin		61.1	59.8	59.7	59.3	85
Ambient	THE THE STEE STEE	WILL A	40.0	40.0	40.0	40.0	A - A
Model: GT	M96300-3648-T2		18th	16th 15th	et cure	1012 100	The same
Appliance	inlet	WILLEY AV	56.2	56.1	50.1	50.4	70
Varistor M	OV1	\$	62.3	64.0	53.8	54.6	85
Choke win	iding (LF1)	LIET WINES	94.3	95.5	70.3	71.6	130
X capacito	or (CX1)		72.3	71.9	60.1	60.1	110
C1 body	at all all of	et also	90.3	88.8	74.1	73.6	105
PCB unde	r BD1	- 4"	72.6	81.4	60.0	65.8	130
Optocoupl	er (U3)	LITER OF	82.2	85.8	76.3	79.5	100
Y capacito	or (CY1)	-20/	86.2	88.4	79.0	80.9	125
Transform	er (T1) core	JER JES	105.4	104.5	102.1	101.6	110
Transform	er (T1) winding	10	100.8	99.1	98.9	97.7	110
E-Cap (C4	t)	76 RIVE	83.7	83.2	80.8	80.7	105
Output wir	e		61.1	62.1	60.7	60.7	80
Enclosure	inside above T1	+ Ite	74.8	69.4	71.2	66.7	Ref.
Enclosure	inside under T1	7,,	78.6	80.2	73.2	74.3	Ref.
Enclosure	outside above T1	JEN .	65.7	61.2	63.7	59.2	80
Enclosure	outside under T1	44, 44	62.4	66.2	62.3	64.8	80
Support ne	ear pin	16t 5	61.7	54.7	54.1	51.3	85
Ambient	er alter mite mil v	10 14	40.0	40.0	40.0	40.0	Self S
Model: GT	M96300-3656-T3	et tet	J. J. C.	KITE.	Will Wh	in our	211. 211
Appliance	inlet	1/1/2	57.0	56.7	51.0	51.5	70
Varistor M	OV1		63.2	64.7	54.8	55.9	85
Choke win	iding (LF1)	Mr. 2	95.8	96.9	71.8	73.3	130
X capacito	or (CX1)	et .	73.4	72.8	61.3	61.5	110
C1 body	ret ret tree street	are are	91.8	90.0	75.7	75.4	105
PCB unde	r BD1	st d	73.7	82.5	61.3	67.4	130
Optocoupl	er (U3)	TIL MUL	83.5	86.9	78.0	81.5	100
Y capacito	or (CY1)	ال ال	87.6	89.7	80.8	83.0	125
Transform	er (T1) core	NILLY.	107.2	106.2	102.6	102.3	110
Transform	er (T1) winding	At .	102.6	100.7	99.4	98.3	110
E-Cap (C4		The state of	85.0	84.3	82.7	82.7	105

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		IEC 61558-2-1	6	16th 5		
Clause	Requirement + Test	WALTER WALTE	Resu	ılt - Remar	k	Verdict
Output wir	e	61.9	62.8	61.9	62.2	80
Enclosure	inside above T1	75.3	69.8	71.7	67.3	Ref.
Enclosure	inside under T1	79.2	80.7	73.7	75.0	Ref.
Enclosure	outside above T1	66.2	61.4	64.1	59.7	80
Enclosure	outside under T1	62.8	66.5	62.7	65.3	80
Support no	ear pin	62.2	54.9	54.4	51.8	85
Ambient	M. M. A. A.	40.0	40.0	40.0	40.0	no - m
Model: GT	M91120-3007.5-2.5-T3A	MILL MILL	200			et et
Appliance	inlet	57.6	57.7	55.8	57.2	70
Varistor M	OV1	59.3	61.4	57.8	59.2	85
Choke win	ding (LF1)	85.5	88.0	75.5	77.3	130
X capacito	or (CX1)	70.7	70.3	68.4	70.1	110
C1 body	me me me	87.6	88.0	86.8	88.8	105
PCB unde	r D1	82.2	87.0	78.0	79.8	130
Optocoupl	er (U2)	87.1	89.6	89.8	89.0	100
Y capacito	or (CY1)	83.3	87.6	85.6	84.7	125
Transform	er (T1) core	101.9	104.5	106.0	104.8	110
Transform	er (T1) winding	95.0	97.4	99.7	98.6	110
E-Cap (C1	1) \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	84.0	87.4	87.2	86.3	105
Output wir	e http://www.	65.4	69.2	67.8	67.4	80
Enclosure	inside above T1	84.2	86.3	86.7	85.8	Ref.
Enclosure	inside under T1	70.4	72.8	73.1	74.9	Ref.
Enclosure	outside above T1	69.3	72.9	71.6	73.0	80
Enclosure	outside under T1	60.9	64.3	62.8	64.3	80
Support no	ear pin	50.2	62.6	50.6	52.9	85
Ambient	T	40.0	40.0	40.0	40.0	20,- 2
Model: GT	M91120-3048-T2	111 111			et et	State St
Appliance	inlet	59.7	62.0	58.1	57.9	70
Varistor M	OV1	60.8	63.9	58.3	58.1	85
Choke win	ding (LF1)	93.3	94.9	41.2	41.2	130
X capacito	or (CX1)	69.4	71.3	65.5	65.1	110
C1 body	in the man	91.8	93.3	88.2	87.5	105
PCB unde	rD1 get get g	84.6	91.5	75.9	75.4	130
Optocoupl	er (U2)	95.2	98.4	95.1	94.0	100
Y capacito	or (CY1)	91.0	93.2	94.1	93.3	125
Transform	er (T1) core	104.9	106.7	107.1	107.8	110
Transform	er (T1) winding	95.7	97.0	99.1	100.0	110
E-Cap (C1	1) 1	88.6	90.2	90.3	91.7	105
Output wir	e to the fifth	64.9	67.5	65.9	67.1	80

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IEC 61558-2-16						
Clause	Requirement + Test	WALLEY WALLE	Resi	ult - Remar	k	Verdict
Enclosure	inside above T1	74.8	75.2	75.8	77.1	Ref.
Enclosure	inside under T1	73.1	74.5	73.7	75.0	Ref.
Enclosure	outside above T1	65.6	64.8	65.5	66.6	80
Enclosure	outside under T1	67.1	68.4	67.5	68.7	80
Support no	ear pin	52.7	56.1	55.0	58.4	85
Ambient	title alien mit and	40.0	40.0	40.0	40.0	18 - St

Supplementary information:

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	$R_2(\Omega)$	T (°C)	Allowed T _{max} (°C)	Insulatio n class
- 1 1 1 1 1 5th S	E - 617	777	in.	2, 2		ے ب	#

Supplementary information:

The heating test performed at unit continuous operation.

15	TABLE	E: SHORT-	CIRCUIT AN	D OVERLO	AD PROTEC	TION		P
-	ambier	nt temperat	ure (°C)		: 24	.9		
type/rated ou	ıtput	r-cold $\Omega$	r-warm Ω	temp. °C	ext. encl. °C	support °C	int. + ext. wire	further information
GTM96300- 2307.5-2.5-T 5Vdc, 22.5W		nijet N	whi whi	112.8	71.3	59.2	unica uni	WILEY SULFER
GTM96300- 3619.5-1.5-T 18.0Vdc, 36V		71/ C	184 - 16	134.1	79.7	71.4	it safet	unitek unit
GTM96300- 3648-T2/ 48.0Vdc, 36V	I EK	NITE <del>Y</del> WNI	ek unztei	125.3	69.7	64.8	WUTTER OU	TEX WITE
GTM96300- 3656-T3/ 56.0Vdc, 36V	v	ie oniie Liek	uni vi	129.7	71.9	66.8	mite <del>l</del> whi	white v
GTM 91120- 3007.5-2.5-T 5Vdc, 20W		WER A	TEX WILLER	131.4	83.5	55.9	Ter <del>u</del> ntire F 764	unti - un
GTM91120- 3048-T2/ 48.0Vdc, 30V	V	LIEK WILL	t whitet	161.3	76.5	59.2	UNE V	iek _{int} iek

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	IEK OLIEK	WALLER WALLER WALLE WALL	IEC 61558-2-16	et set set set of	Je nij
'n	Clause	Requirement + Test	NITER WALL WAL	Result - Remark	Verdict

15	TABL	TABLE: SHORT-CIRCUIT AND OVERLOAD PROTECTION							Р
	ambient temperature (°C) 24.9								
type/rated or	utput	r-cold $\Omega$	r-warm Ω	temp. °C	ext. end °C	support	int. + ext. wire	1 .	further ormation

## Note:

- 1. The model of GTM96300-2307.5-2.5-T3 that output overload to 5.4A, the unit protected, T1 winding max. temp.: 112.8°C no hazards.
- 2. The model of GTM96300-3619.5-1.5-T3 that output overload to 2.65A, the unit protected, T1 winding max. temp.: 134.1°C no hazards.
- 3. The model of GTM96300-3648-T2 that output overload to 0.92A, the unit protected, T1 winding max. temp.: 125.3°C no hazards.
- 4. The model of GTM96300-3656-T3 that output overload to 0.85A, the unit protected, T1 winding max. temp.: 129.7°C no hazards.
- 5. The model of GTM91120-3007.5-2.5-T3A that output overload to 4.9A, the unit protected, T1 winding max. temp.: 131.4°C no hazards.
- 6. The model of GTM91120-3048-T2 that output overload to 1.2A, the unit protected, T1 winding max. temp.: 161.3°C no hazards.
- 7. Short circuit at the output terminal and secondary winding, the unit protected immediately, no temp. rising, no hazards.
- 8. Rated ambient temperature ta: 40°C

18.2 TABLE: insulation resistance measuremen	nts	P
Insulation resistance R between:	R (MΩ)	Required R (MΩ)
Between mains poles (primary F1 disconnected)	>100	2
Between primary and enclosure* (All type of enclosure were considered)	>100	7 1
Between input and output	>100	1 5 W
Between primary and secondary of T1 (All source of transformer were considered)	>100	nifet 5- miles
Between core and secondary of T1 (All source of transformer were considered)	>100	TEX STEEL SINGER
Between enclosure inside and outside* (All type of enclosure were considered)	>100	7

## Supplementary information:

*: All sources of materials were considered, tested according to the client's required.

18.3 TABLE: Dielectric Strength	x & d	THE THE REP
Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Between mains poles (primary F1 disconnected)	2100 AC	No
Between primary and enclosure* (All type of enclosure were considered)	4200 AC	No

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IEC 61558-2-16									
	Clause F	Requirement + Test	Result - Remark	Verdict					

4200 AC	No
4200AC	No No
4200 AC	No No
4200 AC	No extract
	4200AC 4200 AC

ANNEX H	Electr	onic circui	ts fault test					P
المالي المالي	ambie	nt temperat	ure (°C)		: 2	25.1	WITE WITE	(1 ¹ (1)
			1.01		The second secon	264V		٠.
Componer		fault	Test voltage	Test time	Fuse No.	Fuse current(A)	Result	
Model: GTN	<b>Л</b> 96300	-3656-T3	J. Mir.	me 2		at a	of the	EN CLIE
BD1	ITEH W	S-C	264V/ 50Hz	1s	F1,F2	0	Fuse (F1) oper immediately an ten times, no h	d repeat
C1		S-C	264V/ 50Hz	1s	F1,F2	0	Fuse (F1) oper immediately an ten times, no h	d repeat
Q1 (G-S)		S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, no damage, no hazard. Output:	
Q1 (D-S)	NITE .	S-C	264V/ 50Hz	1s	F1,F2	0 4 375	Fuse (F1) opened immediately and rep ten times, no hazard	
Q1 (D-G)	- 171	S-C	264V/ 50Hz	1s	F1,F2	0	Fuse (F1) oper immediately an ten times, no h	d repeat
T1 Pin 1-2.	WILLER	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down damage, no ha Output :	
T1 Pin TA-1	ГВ.	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down damage, no ha Output :	
D2	er Er	S-C	264V/ 50Hz	10min	F1,F2	0.27	Unit work norm hazard.	ally, no
U3 (pin3-4) SC			264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, no damage, no hazard. Output :	
U3(pin1-2)	INLTEK.	SC S	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, no damage, no hazard. Output:	

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ANNEX H	Elect	ronic circui	ts fault test	TEH RUTE	- NITE	ane and	20, 20,	Р
STEEL ST	ambie	ent temperat	ure (°C)		:	25.1	· At Att	TIEF.
ar ar	Test voltage(V)					264V	me me	<i>y</i> , ,
Component No.		fault	Test voltage	Test time	Fuse N	o. Fuse current(A)	Result	
U3 (pin1)	WILLER	oc d	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, no damage, no hazar Output :	
U3 (pin3)	ALTER V	ос	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down damage, no ha	
C4	's re	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down damage, no ha	
Output	WALT	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down damage, no ha	
Model: GTN	M91120	)-3048-T2	Ter WITE	They are	. 21,	100	4 14 1	+ 10
D1	riek Mer	S-C	264V/ 50Hz	1s	F1,F2	O VICE	Fuse (F1) opened immediately and repetentimes, no hazard.	
C2 S-C		S-C	264V/ 50Hz	1s	F1,F2	0 0	Fuse (F1) opened immediately and repeaten times, no hazard.	
Q1 (G-S) S-		S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, no damage, no hazard. Output:	
Q1 (D-S)	ALTEK.	S-C	264V/ 50Hz	_1s	F1,F2	O Ch MILIT	Fuse (F1) opened immediately and repeaten times, no hazard.	
Q1 (D-G)	r 10	S-C	264V/ 50Hz	1s 1	F1,F2	ni 0 miret	Fuse (F1) opened immediately and repeten times, no hazard.	
T1 Pin 1-2.	MULEX	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, no damage, no hazard. Output:	
T1 Pin TA-TB.		S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down 0.01 damage, no ha Output :	
D2 S-C		264V/ 50Hz	10min	F1,F2	0.23	Unit work norm hazard.	ally, no	
U2 (pin3-4)	(1.04)			Unit shut down damage, no ha Output :				
U2 (pin1-2)	INLTEK.	SC SC	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down damage, no ha Output :	

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	TEX WITE		IEC 61558-2-16		MILE WALTE			
	Clause	Requirement + Test	TER STEP WITH WAL	Result - Remark	Verdict			

ANNEX H	Electr	onic circui	its fault test					Р
JEK N	ambiei	nt temperat	ture (°C)		:	25.1	t let clear	LIER
en en	Test vo	oltage(V)		264V	in .			
Componer	nt No.	fault	Test voltage	Test time	Fuse N	o. Fuse current(A	Result	
U2 (pin1)	WALTER	OC N	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, damage, no ha: Output :	
U2 (pin3)	ALTER OF	ОС	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, damage, no ha Output :	
C11	ing.	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, damage, no haz	
Output	MUTTE	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, damage, no ha	

20	TAE	BLE: Components	in in	, L 2+	et let	JEX	Р	
Object/part No.		. Manufacturer/ Type/model trademark		Technical data	Standard (Edition / year)	Mark(s) of conformity1)		
PCB		WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B T4	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	UL E154355	
-Alternative	i Ciest	GUANGDONG HETONG TECHNOLOGY CO LTD	CEM1, 2V0, FR4	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	243157	
-Alternative		CHEERFUL PLASTIC ELECTRONIC PRODUCTS	02, 03, 03A	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E199724		
-Alternative		DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	251754	
-Alternative	. ul	SUZHOU CITY YILIHUA ELECTRONICS CO LTD	YLH-1	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	251781	
-Alternative	ئىرىن ئىرىن	DAFENG AREX ELECTRONICS TECHNOLOGY CO LTD	02V0, 03V0, 04V0	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	186016	
-Alternative		KUOTIANG ENT LTD	C-2, C-2A	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	227299	

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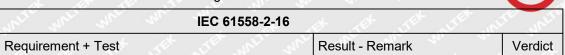


20	TAE	BLE: Components				Р
Object/part	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	, w - w	SHENZHEN TONGCHUANGXI N ELECTRONICS CO LTD	TCX	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E250336
-Alternative		PACIFIC WIN ELECTRONIC PRODUCTS LTD	PW-02 PW-03	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E228070
-Alternative	et z'	YUANMAN PRINTED CIRCUIT CO LTD	1V0	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E74757
-Alternative	, nr	SUZHOU XINKE ELECTRONICS CO LTD	XK-2, XK-3	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E231590
-Alternative	MLTE L	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E213009
-Alternative		SHANGHAI H- FAST ELECTRONIC CO LTD	211001, 211002	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E337862
-Alternative	an su	Jiangxi ZHONG XIN HUA Electronics Industry Co Ltd	ZXH-2, ZXH-3	min. V-0, 130°C	UL 796	UL E331298
Enclosure	NIA.	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	Min. V-1, Min. thickness: 1.5mm, 105°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative	nu,	SABIC INNOVATIVE PLASTICS US L L C	C2950	Min. V-0, Min. thickness: 2.0mm, 85°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative	المالية المالية	SABIC JAPAN L L C	CX7211	Min. V-0, Min. thickness: 2.0mm, 90°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative	er er	SABIC INNOVATIVE PLASTICS B V	945	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative	نامان	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, Min. V-0, Min. thickness: 2.0mm, 125°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative	ALTE	SABIC INNOVATIVE PLASTICS B V	SE1X, SE1	Min. V-1, Min. thickness: 1.5mm, 105°C	UL 94 UL 746	Tested with appliance UL E207780

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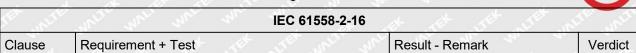
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20 T	ABLE: Components				Р
Object/part N	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	SABIC INNOVATIVE PLASTICS B V	SE100	Min. V-1, Min. thickness: 2.0mm, 95°C	UL 94 UL 746	Tested with appliance UL E207780
-Alternative	SABIC INNOVATIVE PLASTICS US L L C	C2950	Min. V-0, Min. thickness: 2.0mm, 85°C	UL 94 UL 746	Tested with appliance UL E207780
-Alternative	SABIC JAPAN L L C	CX7211	Min. V-0, Min. thickness: 2.0mm, 90°C	UL 94 UL 746	Tested with appliance UL E207780
-Alternative	SABIC INNOVATIVE PLASTICS B V	945	PC, Min. V-1, Min. thickness: 2.0mm, 120°C	UL 94 UL 746	Tested with appliance UL E207780
-Alternative	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, Min. V-0, Min. thickness: 2.0mm, 125°C	UL 94 UL 746	Tested with appliance UL E207780
-Alternative	TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	PC, Min. V- 0, Min. thickness: 2.0mm, 115°C	UL 94 UL 746	Tested with appliance UL E50075
Appliance inle (CON1 Class units(C6 type)	I) Electronics Co.,	DB-6	2.5A, 250Vac	IEC60320-1	VDE 40032465
-Alternative	Rich Bay Co., Ltd.	R-30790	2.5A, 250Vac	IEC60320-1	VDE 40030381
-Alternative	Sun Fair Electric Wire & Cable (HK) Co. Ltd.	S-02	2.5A, 250Vac	IEC60320-1	VDE 40034448
-Alternative	TECX-UNIONS Technology Corporation	TU-333	2.5A, 250Vac	IEC60320-1	ENEC-00633
-Alternative	Rong Feng Industrial Co., Ltd.	RF- 190	2.5A, 250Vac	IEC/EN 60320- 1	VDE 40030379
-Alternative	Inalways Corporation	0724	2.5A, 250Vac	IEC60320-1	ENEC/FI 2010080
-Alternative	Zhe Jiang BeiErjia	ST-A04-002	2.5A, 250Vac	IEC60320-1	VDE 40016045
-Alternative	Shenzhen Delikang Electronics Technology Co., Ltd	CDJ-2	2.5A, 250Vac	IEC60320-1	VDE 40015580

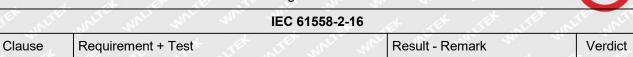
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20 TA	BLE: Components				Р
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
Appliance inlet (CN1 Class II)	Zhejiang LECI Electronics Co., Ltd.	DB-8	2.5A, 250Vac	IEC60320-1	VDE 40032028
units (C8 type)			711, 72, 7	4	
-Alternative	Rich Bay Co., Ltd.	R-201SN90	2.5A, 250Vac	IEC60320-1	VDE 40030384
-Alternative	Sun Fair Electric Wire & Cable (HK) Co. Ltd.	S-01	2.5A, 250Vac	IEC60320-1	VDE 40034449
-Alternative	Rong Feng IndustrialCo., Ltd.	RF-180	2.5A, 250Vac	IEC60320-1	VDE 40030168
-Alternative	Inalways Corporation	0721	2.5A, 250Vac	IEC60320-1	ENEC/FI 2010087
-Alternative	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A03-005	2.5A, 250Vac	IEC60320-1	VDE 40014833
-Alternative	Kunshan DLK Electronics Technology Co., Ltd	CDJ-8	2.5A, 250Vac	IEC60320-1	VDE 40025531
Appliance inlet CN1 Class I units (C14 type)	Zhejiang LECI Electronics Co., Ltd.	DB-14	10A, 250Vac	IEC/EN 60320-1	VDE 40032137
-Alternative	Rich Bay Co., Ltd.	R-301SN	10A, 250Vac	IEC/EN 60320-1	VDE 40030228
-Alternative	Rong Feng Industrial Co., Ltd.	SS-120	10A, 250Vac	IEC/EN 60320-1	VDE 40028101
-Alternative	Sun Fair Electric Wire & Cable (HK)Co. Ltd.	S-03	10A, 250Vac	IEC/EN 60320-1	VDE 40034447
-Alternative	TECX-UNIONS Technology Corporation	TU-301-S, TU-301-SP	10A, 250Vac	IEC/EN 60320-1	ENEC 00647
-Alternative	Inalways Corporation	0711	10A, 250Vac	IEC/EN 60320-1	ENEC 2010084
-Alternative	Zhe Jiang Bei Er jia	ST-A01-003J	10A, 250Vac	IEC/EN 60320-1	VDE 40013388
Appliance inlet CN1 Class II units (C18 type)	Rong Feng Industrial Co.,Ltd	SS-120	10A,250V	IEC/EN 60320-1	VDE 40028101
-Alternative	HCR ELECTRONICS CO., LTD	SK05	10A,250V	IEC/EN 60320-1	ENEC NO4018

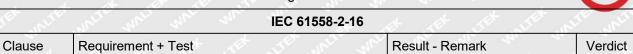
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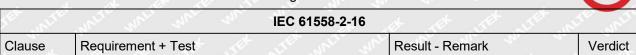
20 T.	ABLE: Components				7,,	Р
Object/part No	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)		k(s) of rmity1)
Earthing wire (for Class I only)	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E23	nce
-Alternative	ZHUANG SHAN CHUAN ELECTRICAL PRODUCTS (KUNSHAN) CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E3	nce
-Alternative	DONGGUAN CHUANTAI WIRE PRODUCTS CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E3	nce
-Alternative	YONG HAO ELECTRICAL INDUSTRY CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E24	nce
-Alternative	DONGGUAN GUNEETAL WIRE & CABLE CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E20	nce 🕙
-Alternative	SHENG YU ENTERPRISE CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E2	nce
-Alternative	KUNSHAN XINGHONGMENG ELECTRONIC CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E3	nce
-Alternative	SUZHOU YEMAO ELECTRONIC CO LTD	1015, 1007, 1185	Min.18AWG, Min. 300V, Min. 80°C	UL 758	Tested appliar UL E3	nce
Heat-shrinkabl Tube (Optional)	e SHENZHEN WOER HEAT- SHRINKABLE MATERIAL CO LTD	RSFR RSFR-H RSFR-HPF	600V, 125°C	UL 224	Tested appliar UL E2	
-Alternative	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	UL 224	Tested appliar UL E2	
-Alternative	DONGGUAN SALIPT CO LTD	SALIPT S- 901-300 SALIPT S- 901-600	Min. 300V, 125°C	UL 224	Tested appliar UL E20	

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20	TAE	BLE: Components	EX JEX 10	LIE WALLE WALL	Mr. Mr.	211	Р
Object/part	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)		rk(s) of formity1)
-Alternative	اس ا	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	UL 224	applia	ed within ance 214175
-Alternative	iter M	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	UL 224	applia	ed within ance 180908
Fuse (F1, F2 (F2 is Option		Conquer Electronics Co., Ltd.	MST series	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 4001 UL E	7118 82636
-Alternative	W NITE	Ever Island Electric Co., Ltd. And Walter Electric	2010, ICP	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 4001 UL E	8781 220181
-Alternative		Bel Fuse Ltd.	RST-Serie(s)	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 4001 UL E	1144 20624
-Alternative	an.	Cooper Bussmann LLC	SS-5	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 4001 UL E	5513 19180
-Alternative	LTE.	Shenzhen Lanson Electronics Co. Ltd.	SMT	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 4001 UL E	2592 221465
-Alternative	on.	Das & Sons International Ltd.	385T series	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 4000 UL E	8524 205718
-Alternative	inii Iek	Dongguan Better Electronics Technology Co., Ltd.	932	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 4003 UL E	3369 300003
-Alternative	, ₁ / ₁	Hollyland Company Lumited	5ET	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 4001 UL E	5669 156471
L Writer	WALTER	Sunny East Enterprise Co. Ltd.	CFD-Serie(s)	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 4003 UL E	0246 133774

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20 TAE	BLE: Components	EK JEK JO	TE WILL WALL	Mrs. Mrs.	Р
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	Conquer Electronics Co., Ltd.	MET series	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017157 UL E82636
-Alternative	Zhongshan Lanbao Electrical Appliances Co., Ltd.	RTI-10 Serie(s)	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017009 UL E213695
Varistor (MOV/MOV1) (optional) (MOV for GT*91120 series)	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K TVR10621K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 005944
-Alternative	Centra Science Corp.	10D471K, 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 40008220
-Alternative	Success Electronics Co., Ltd.	SVR10D471K SVR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 40030401
-Alternative	Walsin Technology Co., Ltd.	10D471K 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40010090
-Alternative	Lien Shun Electronics Co. Ltd	10D471K 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 40005858
-Alternative	Ceramate Techn. Co., Ltd.	GNR10D471K GNR14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 40031745
-Alternative	Brightking (Shenzhen) Co., Ltd.	10D471K 14D471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 40027827

Reference No.: WTX22X12243522S F

Requirement + Test



20 1	ABLE: Components	Et JET C	LIE WALL WALL	we we	Р
Object/part N	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	Joyin Co., Ltd.	10N471K 14N471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 005937
-Alternative	Xiamen Set Electronics Co., Ltd.	TFV8S471K TFV10S471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	TUV-RH J 50554061
Line filter (LF	1) GlobTek/HAOPUW EI/HEJIA/BOAM	LF007	17mH	IEC 61558-1 IEC 61558-2-16	Test with equipment
X-Capacitor (CX1) (options	Cheng Tung Industrial Co., Ltd.	СТХ	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	Tested with appliance UL E193049
-Alternative	Tenta Electric Industrial Co. Ltd.	MEX	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 119119 UL E222911
-Alternative	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40032481 UL E216807
-Alternative	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40015608 UL E183780
-Alternative	Yuon Yu Electronics Co. Ltd.	MPX	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40032392 UL E200119
-Alternative	Sinhua Electronics (Huzhou) Co ., Ltd.	MPX	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40014686 UL E237560
-Alternative	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX - Series	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40022417 UL E311166
-Alternative	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40018798 UL E147776
-Alternative	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	Min. 300VAC, 110°C, X1 or X2 Max. 0.47μF	IEC 60950- 1 UL 60384- 14 UL 1414	VDE 40018690 UL E252286
Y-Capacitor (CY1,CY2)	TDK CORPORATION	CD	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40029780 UL E37861

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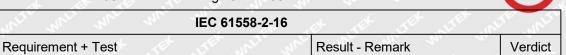
20 TA	ABLE: Components				Р
Object/part No	. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	Success Electronics Co., Ltd.	SE	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40037211 VDE 40020002 UL E114280
-Alternative	Success Electronics Co., Ltd.	SB	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40037221 VDE 40020001 UL E114280
-Alternative	Murata Mfg. Co., Ltd.	KX	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40002831 UL E37921
-Alternative	Walsin Technology Corp.	AH	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40001804 UL E146544
-Alternative	JYA-NAY Co., Ltd.	JN	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	TUV 69242987 UL E201384
-Alternative	Haohua Electronic Co.	CT 7	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40003902 UL E233106
-Alternative	Jyh Chung Electronic Co., Ltd.	JD	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 137027 UL E187963
-Alternative	Jerro Electronics Corp.	JX-series	Max.4700pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40032158 UL E333001
Optocoupler (U2/U3)(U2 for GT*91120 series)	Everlight Electronics Co., Ltd.	EL817	Dti=0.5mm Int. , dcr=6.0mm EXT.dcr=7.7mm, thermal cycling test, 110°C	IEC 60747-5-5	VDE 132249

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Requirement + Test	Result - Remark	Verdict

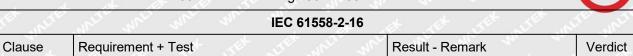
20 T.	ABLE: Components	Et JEH W	ITE WALL WALL	Mrs. Mrs.	Р
Object/part No	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	COSMO Electronics Corporation	K1010/KP101 0	Dti=0.6mm Int, dcr=4.0mm, EXT.dcr=5.0mm, thermal cycling test, 115°C	DIN VDE 0603-2	VDE 101347
-Alternative	Fairchild Semiconductor Pte Ltd	H11A817B/F OD817B	Isulation voltage: 850V; Transient overvoltage; 6000V; CTI175; Int.Cr/Ext.Cr: ≥7.0/7.0mm; 30/110/21;	IEC/EN 60747	VDE 40026857
-Alternative	Toshiba Electronic Devices & Storage Corporation	TLP781F	ti>0.4mm Int, EXT.ci> r8.0mm, Isolation 3000Vac min., 110°C;thermal cycling test	EN 60747	VDE 40021173
-Alternative	Lite-On Technology Corporation	LTV-817	Dti=0.8mm Int. , EXT.dcr=7.8mm, thermal cycling test, 110°C	IEC/EN 60747- 5-2	VDE 40015248 UL E113898
-Alternative	Sharp Corporation Electronic Components and Devices Group	PC817	Insulation voltage: 890V; Transient overvoltage: 9000V Int. Cr/ Ext. Cr: 7,62/ 7,62 mm; 30/100/21	IEC/EN 60747-5- 2	VDE 40008087
-Alternative	Bright Led Electronics Corp.	BPC-817 A/B/C/D/L BPC-817 M BPC-817 S	Dti=0.4mm EXT. dcr=7.0mm,therm al cycling test,100oC	IEC/EN 60747-5- 2	VDE 40007240
Transformer (T1)	GlobTek /BOAM / HAOPUWEI/ENG	See attachment for details	Class B	IEC 61558-1 IEC 61558-2-16	Test with equipment

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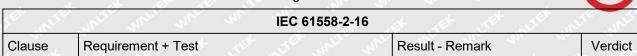
20	TAE	BLE: Components	et jet o	life, while when	MUE MILE	Р
Object/part N	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
Magnet wire	e Nil	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U	MW28-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E201757
-Alternative	5 E.H.	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWS/U	MW75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E201757
-Alternative	uni	JUNG SHING WIRE CO LTD	UEW-4	MW75C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E174837
-Alternative	JE JE	JUNG SHING WIRE CO LTD	UEY-2	MW28-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E174837
-Alternative		JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130	MW75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E335065
-Alternative	IL EX	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130	MW75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E158909
-Alternative	٤	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB	MW75#, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E206882
-Alternative	un'	JIANGSU DARTONG M & E CO LTD	UEW	MW 75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E237377
-Alternative	NLT.	SHANDONG SAINT ELECTRIC CO LTD	UEW/130	MW75#, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E194410
-Alternative	- J1	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW	MW 79#, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E222214
- Bobbin	نامان ارتاقا	Changchun Plastics	T375J T375HF	Phenolic,V- 0.150°C,min. thickness 0.45mm	UL94	UL E59481

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20 TA	ABLE: Components				Р
Object/part No	. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	CHANG CHUN PLASTICS CO LTD	4130	V-0, 140°C, thickness 0,74 mm min.	IEC 62368- 1 UL 94 UL 746 A/B/C/D	Tested with appliance UL E59481
-Alternative	Sumitomo	PM-9820	Phenolic,V- 0.150°C,min. thickness 0.45mm	UL94	UL E41429
-Alternative	Hitachi	CP-J-8800	Phenolic,V- 0.150°C,min. thickness 0.45mm	UL94	UL E42956
Insulation tape	3M	1350F-1, 1350T-1, 44	130°C	UL 510	ULE17385
-Alternative	Bondtec	370S	130°C	UL 510	UL E175868
-Alternative	YAHUA	PZ CT WF	130°C	UL 510	UL E165111
-Alternative	JINGJIANG JINGYI	JY25-A	130°C	UL 510	UL E246950
-Alternative	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	130°C	UL 510	UL E246820
Triple winding	Great Leoflon	TRW(B)	130℃	UL 1446	VDE 136581 UL E211989
-Alternative	Furukawa	TEX-E	130℃	UL 1446	VDE 006735 UL E206440
-Alternative	Totoku	TIW-2	130℃	UL 1446	VDE 40005152 UL E249037
-Alternative	COSMOLINK	TIW-M	130℃	UL 1446	VDE 138053 UL E213764
-Alternative	E&B TECHNOLOGY CO LTD	E&B-XXXB E&B-XXXB-1	130℃	UL 1446	VDE 40023473 UL E315265
-Alternative	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TIW	130℃	UL 1446	VDE 40037495 UL E357999

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20	TABLE: Components				7,,	Р	
Object/part No.		Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)	
-Alternative	יער גנזי	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	130℃	UL 1446	VDE 4003 UL E	7495 357999
-PTFE tubir	ng	GREAT HOLDING INDUSTRIAL CO LTD	TFT / TFS	Min. 300V, 200°C	UL 224	applia	ed with ance 156256
-Alt. use		SHENZHEN WOER HEAT- SHRINKABLE MATERIAL CO LTD	WF TEL WALTER	600V, 200°C	UL 224	applia	ed with ance 203950
-Alt. use	ntië .e	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB- TT-S	Min. 300V, 200°C	UL 224	applia	ed with ance 180908
Output cord		Interchangeable	Interchangeab le	Min. 20AWG, min. 300Vac, min. 80°C	UL 758	UL	WALTE.
1) An asteris	sk in	dicates a mark which	assures the agi	reed level of surveil	lance	,	10, 11
Supplement	tary i	nformation: N/A					

## Attachment for transformer as below:

Product Model	Voltage range	Transformer model
	5-8.9V	TF038
GT*96300-***-	9-11.9V	TF057
Γ2/T2A/T3/T3A/R2/R3A*  Desktop models ————————————————————————————————————	12-14.9V	TF039
Desktop models	15-24V	TF040
WILL WELL MEN MAN	24.1-48V	TF041
and the second	18V	TF068
GT*96300-***-	24V	TF069
T2/T2A/T3/T3A/R2/R3A- AP/PP/SP	36V	TF070
AFIFFIOR	48V	TF051
Aug Aug Aug	54V, 56V	TF051
at at the state of	5-7.5V	GT-3005001
WELL MULL AND MY	7.6-10.5	GT-3009001
GT*91120-***-	10.6-14.5V	GT-3012001
T2/T3A/F/FW/P2/P3*	14.6-19.5V	GT-3015001
24 24 2	19.6-24V	GT-3024001
at let tex tex of	24.1-48V	GT-3048001

26	TABLE: Working voltage measurement.	P.
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1 1010101100	711011 11 17 1227 122 100220	1 ago 55 51 155		
TER WITE	ancie mai mai m	IEC 61558-2-16	CER TEX STEX SUT	ALIE WALL
Clause	Requirement + Test	EK STER WILL WILL	Result - Remark	Verdict

Location	RMS voltage (V)	Peak voltage (V)	Comments
Model: GTM96300-36	56-T3		LEK TEK TEK STER BITER
T1 Pin 1 to pin TA	235	540	and the support
T1 Pin 1 to pin TB	248	590	Max. RMS voltage , Max. Peak voltage
T1 Pin 2 to pin TA	197	422	The the the
T1 Pin 2 to pin TB	201	440	y ifer ties outer mile out
T1 Pin 3 to pin TA	171	380	m m the
T1 Pin 3 to pin TB	176	430	TER STEE STEE SHIP SHIP
T1 Pin 5 to pin TA	172	362	1 1 1
T1 Pin 5 to pin TB	170	348	THE MITTER WALL WALL WILL WILL WILL WILL WILL WILL
CY1 & CY2	170	346	
U3 Pin 1 to Pin 3	179	362	the write must make an
U3 Pin 1 to Pin 4	176	360	and the state of
U3 Pin 2 to Pin 3	179	356	with mill and my my
U3 Pin 2 to Pin 4	179	362	at the life life
Model: GTM91120-30	48-T2	y aliet miter	WILL MULL MU ME AND AND
T1 Pin 1 to pin TA	230	540	at the tree tree
T1 Pin 1 to pin TB	242	580	Max. RMS voltage , Max. Peak voltage
T1 Pin 2 to pin TA	197	422	The little still said
T1 Pin 2 to pin TB	201	440	me m m
T1 Pin 3 to pin TA	171	372	THE THE STEEL STILL STATE
T1 Pin 3 to pin TB	176	430	and the sail of
T1 Pin 5 to pin TA	172	362	TEX STEP STEP STILL SUITE SUBTE
T1 Pin 5 to pin TB	170	348	to the sail of the
CY1	170	346	THE LIFE OLIVE MILE WHILE WA
U2 Pin 1 to Pin 3	179	362	The state of
U2 Pin 1 to Pin 4	176	360	CLIEB INLIE MILL WILL WILL
U2 Pin 2 to Pin 3	179	352	We at the little
U2 Pin 2 to Pin 4	179	362	LITER PALTE WALL WALL WALL

Note(s):

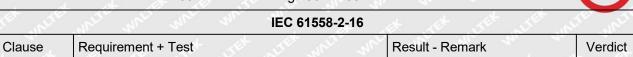
Operating conditions: Input voltage: = AC 240V (rated voltage)

Used to determine the test voltage of dielectric strength and clearance, creepage distance and Dti.

26	Table: creepage distances and clearances and distances through insulation					P		
Insulation		Required	Clearance Creepage		Dti			
		Insulation	Measured Required		Measured	Required	Measured	Required

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		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
GTM96300 series	WITE W	is with	211		d	it it	TEX
L & N trace before fuse	BI	6.6	2.4	6.6	2.5	771	
Two terminals of fuse	BI	2.8	2.4	2.8	2.5	with a	n - m
Between primary circuits to PE terminal	BI	3.6	2.4	3.6	2.5	MALTER DIN	SEK
CY1 primary pin to earth trace	BI	5.1	2.4	5.1	2.5	ALTEK MALTE	y TEK
CY2 primary pin to earth trace	MALE BI	4.6	2.4	4.6	2.5	et Tex	MLIER
Live parts to accessible parts	RI	8.2	4.6	8.2	5.5	- TEX	TEN.
Primary circuit to secondary ciruits (PCB trace under U3)	RI	7.3	4.6	7.3	5.5	unitet uni	ek nute
Primary circuits to secondary circuits (PCB trace under T1)	RI	6.7	4.6	6.7	5.5	TEX -	WALTER.
Transformer primary winding to secondary winding	RI	7.2	4.6	7.2	5.5	MUNITER.	UVILLE <mark>F</mark> ON
Transformer secondary winding to core	RI	6.8	4.6	6.8	5.5	ani <u>e</u> an	ite <del>ji</del> ni K rel
GTM91120 series	10, 1		et	JEN JE	RLIE S	MIT WILL	and
L & N trace before fuse	BI	4.6	2.4	4.6	2.5	EK TEK	MITES.
Two terminals of fuse	BI	3.1	2.4	3.1	2.5	200	
Between primary circuits to PE terminal	BI	6.1	2.4	6.1	2.5	MUTALE A	ALTER WA
CY1 primary pin to earth trace	BI	9.7	2.4	9.7	2.5	onlite oni	100
Live parts to accessible parts	un'RI W	6.5	4.6	6.5	5.5	LTEK WALTE	WALTER
Primary circuit to secondary ciruits (PCB trace under U2)	RI	8.1	4.6	8.1	5.5	ek watek	ounlife.c
Primary circuits to secondary circuits (PCB trace under T1)	RI	7.7	4.6	7.7	5.5	weiz- w	64 -116 64 -116
Transformer primary winding to secondary	RI	8.4	4.6	8.4	5.5	Vr - 21/2	24 201

Reference No.: WTX22X12243522S

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		2950. 212.00	
LIER MITE	white many many many is	EC 61558-2-16	WILL MILL
Clause	Requirement + Test	Result - Remark	Verdict

winding		et et	LITE .	NITE MILE	and a	10 20	20,
Transformer secondary winding to core	IN RI	6.5	4.6	6.5	5.5	TEK UTEK	MUTITER M

## Remark:

## B = basic insulation S = supplementary insulation R = reinforced insulation

- 1. The core of transformer (T1) is considered as primary.
- 2. CY1 consider supplement insulation.

27.2	TABLE: BALL-PRESSURE TEST FOR ENCLOSURE					
Material	t	Temperature (°C)	Result (mm)	Comments	7	
Plastic enclosure		79	0.8	See table 20	ALTE N	
Remark: -	a et .	SEK STEK STEK W	right might	74, 2, 1	<i>A</i> -	

27.4	TABLE:	TABLE: GLOW-WIRE TEST FOR ENCLOSURE					
Material	WITE ON	Temperature (°C)	Result (mm)	Comments	کے ک		
Plastic enclosure		650	No flame	See table 20	-0,		
Remark: -	THE WITE	must me mi	1 1 1	TEX STEX STEX	NITE"		

27.2 TABLE: BALL-PRESSURE TEST FOR INSULATION MATERIAL RETAINING CURRENT CARRYING PART						
Material	Temperature (°C)	Result (mm)	Comments			
T1 bobbin	125	1.0	See table 20			
PCB	125	0.8	See table 20			
Appliance inlet 125		1.2	See table 20			
Remark:	WITCH WALLE WALLE WALLE	7h 2h 7k	et tet stet sitet			

	TABLE: GLOW-WIRE TEST FOR INSULATION MATERIAL RETAINING CURRENT CARRYING PART											
Material	Temperature (°C)	Result (mm)	Comments									
PCB	750 / 850	No flame / No flame	See table 20									
T1 bobbin	650 / 750	No flame / No flame	See table 20									
Appliance inlet (CON1 Class I)	750	No flame	See table 20									
Appliance inlet (CON1 Class II)	750	No flame	See table 20									
Remark:	the Will Mr. M.	2, 1	at at at									

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

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LIER WITE	white many many many	EC 61558-2-16	WITE WILL
Clause	Requirement + Test	Result - Remark	Verdict

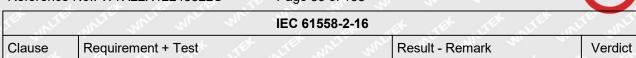
	Test with three special prepared specimens with uninsulated wires, without potting or impregnation											
cycles wit 2 x working vo between pri / sec	oltage 1	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C		1 hour 25 °C						
EK NUTEK	TEK V	LIET WATER WALE	MULL MY	F 70	, ,	ret nitet	al trust	ek mirk				

26.2 TEST B		CREEPAGE DISTANGH INSULATION	NCES AND CL	EARAN	CES A	ND DISTANC	ES	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				
24, 2		a st st	TEX SITES	Metro	200	Mur. M	711	10,		
All I	THE ST	The street of	12 20			<del></del> .	y Let	(1E)		

26.2 TEST C	10000740	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION												
		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								
NICTER ON	ille muli	NULL AND A	7	165	J. C.	NI WE	- are the	Meter.						

Annex U	U.5.1 THERMAL ENDURANCE TEST
Type ref.	LITE MILL WILL WILL A STATE THE STEEL STILL STILL STILL STILL
Rated PRI-Voltage	ex lex tex with white white white white white with the control of
Rated SEC- Voltage	White white writer writer white white white white white
Material of Winding	MILLE WILL WILL WILL THE WAY THE STEEL WAS TO THE WAY TO SEE THE STEEL WAS TO SEE THE STEEL WAY TO SEE THE STEEL WAY TO SEE THE STEEL WAY TO SEE THE SEEL WAY TO SEEL WAY TO SEE THE SEEL WAY TO SEE THE SEEL WAY TO SEE THE SEEL WAY TO SEEL WAY TO SEE THE SEEL WAY TO S
Material of bobbin	It let life wife write while while will and and and
Material of resin	MELL WALL THE STEEL WITH MITHER WITH MITH
Material of potting	Ex tex street with white white white white will all the
Material of foil	WALL THE STEE STEEL STEE
Components	the title with with with the title the title

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26.2 TEST C	TABLE					ES A	ND CL	EARA	NCES	AND	DISTA	ANCE	S	£ .	N/A
	Test wi					ed spe	cimen	s with							
cycles with 2 x working voltage between pri / sec		te	68 h at the temperature acc. Cl. 14 (min. 85 °C)			1 hour 25 °C		2 hour 0 °C		1 hour 25 °C				·	
removed fo	r test	164	10		ø,	The same	Mr.	Mr.	_ \d		10,	200	41	4	بار
tw	الارتعام		ans	20,	20,		J.		٠ ,	EK	Tilet.	NLTE	e and	اں گا	ALTE.
S		÷		THE WITH WILL MAN THE WAY											
Objective to duration (da		11		VEK.	100	نم.	TEX OI	LIEK	VNTE	mi	iek m	LIE.	MITE	whi	- 21/
Theoretical temperature		Mer	- m		N. S.	10	- 3	Et .II	LIEK	NALTE!	L WALT	⁶ 14	LIER .	METE	MIL
Sample		1 2		2	3		4		5		6		7		
Winding		PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC
Start - Rk	LIE WY		W.	avr.	'm	. 35		_,		ţ-	CENT .	16	التاريخ		TE.
After 4 h –	Rw		J.	_4	.56		LIE.	50	win	211			10,		
After 4 h – temperatur		1/2	1	A	2112	اک د	<i>y</i> -	SE		ı,	, un	SEP 4	ALTER	WALT	in
After 4 h - c		21/	16.	1		16 TEN			JE.		JALI	£ 100°	TEX	LIER	WILLE
After 24 h -	- Rw	J. C.	- PLIE	ari	× 3	D.	m.	10,	. "		1		, t	est.	TEL
After 24 h - winding temperatur		EN	LIEN	MALTE	, wh	SEP S	NLTER.	White	, m	,		NNL. TEX	VIAN LITE	د ن _م	
After 24 h - temperatur			iek 'n	CLER	WALTE	اس	16 11		MUE	'n'r	έ -7η		THE THE	23	<u>+</u> _1
Final test p (days)	eriod	LIE!	آ _{ام} ا	est out	LIEF	WY TE	, VINE	1/	NITE.	MER	whi	1	r . est	LEX.	301°
Output volta (11.1) unde	age er load	LEK N	VI LIEN	٠ ن	E.K 01	CLER	WALTE	MIL	رويد ما	JE.	MILLE	whe	, 44	· ·	ne.
Insulating resistance	ir in		on.	-20°	, ni	elf all	LIEK.	MALTE!	y whi	. J.J.	ALTER V	NLTE.	MILL	Jul.	, . , t
High voltag (35% of the in Table 8.a	values	w T	ir s	TEK .	MITE	MAL	i Eik	TEX.	MALTEN	WIL	'E'K	TEK.	MITER	WILL LEN	- m

Annex U	U.5.2 The use of an other constant S other than 4500 in tw tests Test1:10 days
Type ref.	the first test mater and the suntil s

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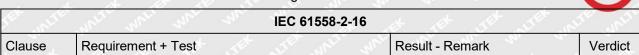
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Clause	Require	ement	+ Test	٠,	Stell .	NITE"	an is	-in	Res	ult - R	Remark	20,		V	erdict
			m	211	. 3		ZE.		<i>*</i> ,	<del>, 4</del>	NO FEE	-15-51	- 111-6	<u> </u>	V.
Rated PRI-\		J.t	- CEN		<u>*                                    </u>	<u> </u>	mer.	ar.	7/1		3,	1.			et.
Rated SEC- Voltage	, m	1	P	7.4 211		Ļ,	elit.	CLIEK	MLIE	- <i>u</i> v	TEK SI	MITER	MILLE	ans	, 'n
Material of \	Vinding	1910	اله علم		Mer	an,	- 2		٠, د			(e)\$	Tex	J. (5.6	ک. ک
Material of b	oobbin		L	e t	76×	, 5°	ام. ٢		Incite .	والمرين	ans			211.	-21.
Material of r	esin	JALTE.	with	ادي '	۲,	ele.			z.t	, c+	46		SEP .	TE .	INLIE
Material of p	ootting	.+	10		(E)	JEX	MILIE	Mrs	10	P .	m.	m	30		
Material of f	oil		Mrr.	-m-	24		`t	, le	٠.	e*	TEX	_J**	ئام. ا	(F .1)	LIE .
Component removed for		et . 1/				1/ ₁	nir.	alver.	ANG.	<i>J</i> ¹	r . Ut	VEX.	TEN.		
tw	7	30.7	.t	13th	zet-		(E. 11	U.	W. C.	an	'u	· .	en.	10,	20
S	MITE	1/2/2	, an	٧,	en.	10		. 4		16	٠ <	e ^t	JEF	CLIFER	" INET!
Objective te duration (da		NLT EV	- WIT	*	LTEK	INLTER	wri	-211		in.	7112-	- 711		all the	TEN
Theoretical temperature			J. E. A.	اكناه	it w	ΣEΦ.	MITER	wi	e m	, T	mer	an.	211	,	TEX.
Sample			1		2	3 4			4	5			6		7
Winding		PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC	PRI	SEC
Start – Rk	V A	I V		A			۶.	5 E B	.05		(un)	3	~	ale.	In.
After 4 h – F	Rw				10	-112							CENT .	TEX	J. (1/2)
After 4 h – v temperature		TEX.	ZITE!		Et v	VILLE,	WALTE	, m	10	10,	mr	71/2	ر. م	.\-	18. E.A.
After 4 h - o			7 E.A.	- 5°	نم، ۴	CENT .	JILTEK	MALIF	r mi	1	NITE	MILL	WE	1,	· ·
After 24 h –	Rw	- 11		30			J+	164	, 4E		CERT .	J. E.	MITE	in.	, an
After 24 h – winding temperature		wi	E.F. AU	STEP.	WILL'S	511°			JULE E	JNLTE	. WAL	'47 Est	LIEK.	MALTE	WALT
After 24 h - temperature		INLTE	Mi	24		ek m	16)	- 3	et .	TEX	WITE !	تامان	ing our	TEN.	MITER
Final test pe (days)	eriod	JEN.	MALTER	will	, m	, t	n.	10 E	ار ا	*	JEK	NLTEN	المالية	, NI	CLER 1
Output volta (11.1) under	ige r load	-'n ir	TEK 1	ALTER	wi	اله.		in.	-ML.	71	et .	TEK	LIEK	ni.	دالا
Insulating resistance	LIEX	ni.	ejt un'	SER .	ONLIER	whi	'in		aner	21/12	- 24	<u>+</u>	LEK.	TEK TEK	
High voltage (35% of the	values	CITER.	MITE	- W		INLT EX		- an	ure v	NLT.	MUER	211	it	CEX-	-DI

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Annex U	et.	U.	5.2 Th	e use	of an	other		ant S o		than 4	500 ir	tw te	sts	, t
Type ref.	, ,		VII	(4)	(La	.t	JULE: I	_ ua		11.04	VILLE	-11/2 TE	Jul.	, ,,
Rated PRI-Voltage		50° .	11/4	NATA CO	1/1/2	7	, ,	2/2	-0,	<u></u>	٠.		. (	٠ ,
Rated SEC- Voltage	- 515°	<u>ν</u>		TIEK.	MATE	y yni	iet 1	WILLER.	MULL	- un	10		211 C.	JUNE LEV
Material of Winding	10	-2,			<u>, , , , , , , , , , , , , , , , , , , </u>	. 46	٠ ,	set .	J. F. C.	MITE	.,11/1	, _U		2012
Material of bobbin	JEK	NLTE!	JAV	10	L.	711,	-11/2			×		L	et -	TEK
Material of resin		2,		b 7	٠,٠	CIEN	. LITE	· NE	٧,	NITT.	WILL	an	-71	
Material of potting	, t	ITE.	N.C.	Mer	7		2,			<i>.</i> +	in the	, Elle		Cart C
Material of foil				, e.t.		5E* .(	J. C.	JALIE.	wi	" cul	٧.	en.	14	-24,
Components removed for test	MILE	711	Ý,	ing.	- July		et.	TEK.	NLTE!	L SINLT	2/1 EX	TLEN 1	INLTER	MINET
tw	100	THE STATE OF THE S	٠,	100	n.c.	111	-2,					j.	zet	C. E.F.
S m		, L		<b>.</b>	et.	-JEE	کی `	(L)	σ,	ares	The	2/1		it.
Objective test duration (days)	9	NI TO	White L	'an'		STEK TEK	TIEN.	· "Lit	* "L	TEK .	MLTEK	WALTE	, un	LTER W
Theoretical test temperature	Jul	DELLA POLICE STATES											المالية	ik mi
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	TEK	OLITE	100	· 1		21/2	211.	1		, ,		ę.	e.y-	TEX
After 4 h – Rw		70,		ii.	CENT .	CIEX	256	نی خ		NITE .	en in	me	21	,
After 4 h – winding temperature	ER 71	UE.	MILIE	71/2	,		TEX TEX	46 20	, ,	CENT I	LIEK	MALTE	نامان	2/1 Elf
After 4 h - oven temperature	MI	ilik M	TEN.	MULTE	'm'	, , , , , , , , , , , , , , , , , , ,		ZIL.	70	÷	ert.	LIEK	NITE	المالية الم
After 24 h – Rw	.2		e ^t	CER	N LITT	we	12	Υ .	n.	21/2	20			,
After 24 h – winding temperature	JEK JEK	WALTER OLITER	الله تاماد	[k 	LTEK.	WALTER	- Whi	-211 Est	TEX.	MALTER	نامس لای	'ur		yntir TEK
After 24 h - oven temperature	, ·	TEX.	LITER	ML	الا الا	ALTEK.	MITE	WALT	11/2	LITE	Wr.	"AUF.	an	,
Final test period (days)	2/1	*- 7	, Elk	N.LTEX	ME	LEIK WI	JEK.	NALTER	WALT	Er M	5° (	yn Life	MILL	m
Output voltage (11.1) under load	MILL	m		CLER CLER	TEN	- OLI	* "I	LIEK	ALTEN	WALT	in.	LIEF V	NUTE	AND L.
Insulating resistance	ALTE	MALL	41	· .	N CENT	A CARES		ek .01	Et	JALTEK	MALTE	ik ani	I EM	NLTER
High voltage test	EX	NITER	NI LITE	in	4	41.	211	20,			100	16		18th

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Clause Requirement + Test Result - Remark Verdict

(35% of the values in Table 8.a

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Clause	Requirement + Test	Result - Remark	Verdict	

AA	ANNEX AA		N/A
WITEE WY	PARTIAL DISCHARGE (PD) TEST	TEX TEX TEX STEE	N/A
2	t of the the state while a	mr. mr. m. m.	, L
ВВ	ANNEX BB		N/A
ex alter	Particular requirements for associated transforme supplies with internal frequencies > 500 Hz	ers for switch mode power	N/A
70,	See separate test report-form for these Annex.	AND AND AND AN	N/A
3B.8	MARKING AND OTHER INFORMATION	TER STER STER MIT	N/A
3B.8.2	Marking for transformers IP00 or for associated transformers: type and trademark, instruction sheets	TEX MITER MATER WHITEK	N/A
3B.8.11	Correct symbols:	and the state of	N/A
- nur	Volts	V mill mill m	N/A
t Jet	Amperes	A (mA)	N/A
M. A	Volt amperes (or volt-amperes reactive for reactors)	VA or (VAR)	N/A
Mer Me	Watts	Wet with white	N/A
	Hertz	Hz	N/A
11/2	Input	PRI	N/A
EX JEX	Output	SEC	N/A
-211	Direct current	d.c. (DC) or ===	N/A
JEE .	Neutral	N A At At A	N/A
24 2	Single-phase a.c.	~ 11 N 11	N/A
ni ^{ter} ini	Three-phase a.c.	3~	N/A
	Three-phase and neutral a.c.	3N ∼	N/A
ie unite	Power factor	cos φ	N/A
y Jet	Class II construction		N/A
m.	Class III construction		N/A
where we	Equipment of overvoltage category I	I WHITE WHITE WHITE	N/A
Life Whi	Equipment of overvoltage category II	II THE WALTE WALTE	N/A
JUNET!	Equipment of overvoltage category III	III white white w	N/A
MUTIES A	Equipment of overvoltage category IV	IV and the and the	N/A

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The Wille	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
and it	Fuse-link		N/A		
me in	Rated max. ambient temperature	ta pri uni	N/A		
LEK S	Rated minimum ambient temperature	t _{amin}	N/A		
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	Rated minimum temperature	t _{min}	N/A		
LEK MALTER	Frame or core terminal	The state south	N/A		
LILIER	Protective earth		N/A		
4, ,	IP number	IPXX	N/A		
NUTTE WI	Earth (ground for functional earth)	Inter white white	N/A		
LIEK WALTE	For indoor use only	Carlot marter marter	N/A		
EX WALTEX	To indicate that the appliance is intended to be usable up to the maximum altitude 3 000 m.	≤3000m	N/A		
WALTER W	To indicate that the power supply unit shall not be used, if pins of the plug part are damaged.	<b>\</b>	N/A		
ne m	Additional Symbols (IEC 61558-2-16:09)	E NALL WALL	N/A		
TEK WALTE	SMPS incorporating a Fail-safe separating transformer	F or F	N/A		
MULTER.	SMPS incorporating a Non-short-circuit-proof separating transformer		N/A		
united un	SMPS incorporating a Short-circuit-proof separating transformer (inherently or non-inherently)		N/A		
7 24 30 20	SMPS incorporating a Fail-safe isolating transformer	F or F	N/A		
MALI	SMPS incorporating a Non-short-circuit-proof isolating transformer	e or ©	N/A		
WALTE V	SMPS incorporating a Short-circuit-proof isolating transformer (inherently or non-inherently)	or O	N/A		
in m	SMPS incorporating a Fail-safe safety isolating transformer	F	N/A		
er over	SMPS incorporating a Non-short-circuit-proof safety isolating transformer		N/A		

Refe

Reference	No.: W1X22X12243522S	Page 95 of 138		W
NIET WITE	MILL MILL MILL MILL	IEC 61558-2-16	et tet tet stet stet m	TE WITE
Clause	Requirement + Test	A CHIEF WHILL WAS	Result - Remark	Verdict

		, <u>, , , , , , , , , , , , , , , , , , </u>	J- 4
MALTER MALT	SMPS incorporating a Short-circuit-proof safety isolating transformer (inherently or non-inherently)		N/A
LIEK MILIEK	SMPS incorporating a Fail-safe auto-transformer	OF OF	N/A
EK WULLEK	SMPS incorporating a Non-short-circuit proof auto-transformer	or -O	N/A
WALTER WA	SMPS incorporating a Short-circuit proof auto-transformer (inherently or non-inherently)	or -O	N/A
NITER WALTE	SMPS (Switch mode power supply unit)	S ALL STATES	N/A
3B.9	PROTECTION AGAINST ELECTRIC SHOCK		N/A
3B.10	CHANGE OF INPUT VOLTAGE SETTING		N/A
3B.11	OUTPUT VOLTAGE AND OUTPUT CURRENT U	NDER LOAD	N/A
3B.12	NO-LOAD OUTPUT VOLTAGE (see supplemental	ry requirements in Part 2)	N/A
3B.13	SHORT-CIRCUIT VOLTAGE		N/A
BB.14	HEATING		N/A
BB.14.2	Application of 14.1 or 14.3 according to the insulation system	THE MILITER MILITER.	N/A
BB.14.2.1	Class of isolating system (classified materials according to IEC 60 085 and IEC 60 216)	THE MILE WALTER W	N/A
3B.14.2.2	No classified material, or system but the measured temperature does not exceed the value of Class A	united whited whited whit	N/A
3B.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	itek whitek whitek whitek	N/A
BB.14.3	Accelerated ageing test for undeclared class of isolating system	un un un	N/A
20, 2	Cycling test (10 cycles):	were me me m	N/A
ALTEK OLI	measuring of the no-load input current (mA)	of the text of	N/A
3B.14.3.1	heat run (temperature in table 2)	Ver Aur Aug Au	N/A
3B.14.3.2	<ul> <li>vibration test: 30 min; amplitude 0,35 mm; frequency range: 10 Hz, 55 Hz, 10 Hz</li> </ul>	TEX WAITER WHITER WHITER	N/A
3B.14.3.3	- moisture treatment (48 h, 17.2)	e at at let	N/A
BB.14.3.4	Measurements and tests at the beginning and after each test:	mer mer my m	N/A

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JEK OLTE	MILIE WALL WALL WA	IEC 61558-2-16	at alt set set	ALTE MALT
Clause	Requirement + Test	H NITER WALLE OF	Result - Remark	Verdict

		· /
onliek wil	deviation of the no-load input current,     measured at the beginning of the test is     30%	N/A
	- insulation resistance acc. cl.18.1 and 18.2	N/A
rit Muri	electric strength, no breakdown (18.3); 2 min; test voltage 35% of specified value (table VI)	N/A
Whitek wh	- 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; frequency (Hz): 2 times rated frequency	N/A
3B.15	SHORT-CIRCUIT AND OVERLOAD PROTECTION	N/A
3B.16	MECHANICAL STRENGTH	N/A
3B.17	PROTECTION AGAINST HARMFUL INGRESS OF WATER AND MOISTURE	N/A
3B.18	INSULATION RESISTANCE AND ELECTRIC STRENGTH	N/A
3B.18.2	Insulation resistance between:	N/A
unitek ani	live parts and body for basic insulation     2 M	N/A
LIER MIN	live parts and body for reinforced insulation     7 M	N/A
et set	input circuits and output circuits for basic insulation 2 M	N/A
- 1674 - 1674 -	input circuits and output circuits for double or reinforced insulation 5 M	N/A
Mery an	each input circuit and all other input circuits     connected together 2 M	N/A
Write Mir	each output circuit and all other output circuits connected together 2 M	N/A
	<ul><li>hazardous live parts and metal parts with basic insulation (Class II transformers)</li><li>2 M</li></ul>	N/A
Mr. A	body and metal parts with basic insulation     (Class II transformers) 5 M	N/A
WHITE WA	metal foil in contact with inner and outer surfaces of enclosures 2 M	N/A
3B.18.3	Electric strength test (1 min): no flashover or breakdown:	N/A
TEK WALTER	basic insulation between input circuits and output circuits; working voltage (V); test voltage (V):	N/A
	double or reinforced insulation between input circuits and output circuits; working voltage     (V); test voltage (V):	N/A

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	4		K
L	77	7	
			A

	IEC 61558-2-16	The state of the s	10 -211
Clause	Requirement + Test	Result - Remark	Verdict
140 M	basic or supplementary insulation between:	NUTLE MUTE MUTE MU	N/A
MULTER MULT	a) live parts of different polarity; working voltage (V); test voltage (V)	LIET WITE WALTER WALT	N/A
LIEK MILIE	b) live parts and the body if intended to be connected to protective earth	et stret wiret writer	N/A
EK MITEK	c) inlet bushings and cord guards and anchorages:	Tet Tet Wifet	N/A
JE*	d) live parts and an intermediate conductive part:	A Et Tet	N/A
24, 24,	e) intermediate conductive parts and body .:	WELL MUST MUST MUST	N/A
inited whit	4) Reinforced insulation between the body and live parts; working voltage (V); test voltage (V)	TER WATER WATER WATER	N/A
x murrex	5) Functional insulation for windings intended to be connected in series or parallel (test voltage = working voltage + 500 V) (IEC 61558-2-16:2009)	Antie while while	N/A
18.102 (A1)	Partial discharge tests according IEC 60664-1 , if the working voltage is > 750 V peak	ALTER WILLER WILLER WILL	N/A
ALTER WALTE	Partial discharge is ≤ 10 pC at time P2 See Fig. 19.101	antiet white	N/A
BB.19	CONSTRUCTION		N/A
BB.19.1	General construction	Murry Aug Aug 2	N/A
BB.19.1.1	General	Let Let Lieb N	N/A
BB.19.1.2	Auto-transformers	ing my my	N/A
BB.19.1.2.1	For plug connected auto-transformers with rated input voltage > rated output voltage the potential to earth shall not exceed the rated output voltage.	LIER WHITER WHITER WHITE	N/A
BB.19.1.2.2	Polarised input and output plug and socket-outlet system: an instruction is given with the information, that the transformer shall not be used with non-polarised plug and socket outlet system.	OLIER WILLER WHILE	N/A
BB.19.1.2.3	A polarity detecting device only energises the output in the case: output potential to earth ≤ rated output voltage, also with reversed input plug.	ALTER WILLER WILL	N/A
CA THE	<ul> <li>The contact separation of the device is ≥ 3mm</li> </ul>	The ment were ment	N/A
MULL	A current to earth does not exceed 0,75 mA.	CLIEF WHILE WALLE	N/A
WALTER W	<ul> <li>All tests are repeated under fault conditions of H.3.3 of annex H of part 1. The potential to earth does not exceed the max output voltage for more than 5 s.</li> </ul>	divites Avrites avertes Avr	N/A

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VIEW WILLE	White Mile Mur Au	IEC 61558-2-16	at at the state of	ER WILL WALL
Clause	Requirement + Test	K STEP WITH WA	Result - Remark	Verdict

Clause	Requirement + Test	Result - Remark	Verdict
	int, out, any any and	THE SET SET	
BB.19.1.3	Separating transformers	an in in	N/A
BB.19.1.3.1	Input and output circuits electrically separated.	LET SET SET	N/A
BB.19.1.3.2	The insulation between input and output winding(s) consist of basic insulation	of the the	N/A
	Class I SMPS	can with any	N/A
IEK WALTER.	Insulation between input windings and body consist of basic insulation	MILIER WHITE WHITE	N/A
WALTER ON	Insulation between output windings and body consist of basic insulation	THE STIET WITH	N/A
A 2	Class II SMPS	10 20 0	N/A
inter and	Insulation between input windings and body consist of double or reinforced insulation	TER WITE WITE AN	N/A
LIE WALTE	Insulation between output windings and body consist of double or reinforced insulation	THE WALTER WALTER WALT	N/A
BB.19.1.3.3	The insulation between input windings and intermediate conductive parts and the output windings and intermediate part consist of basic insulation	Whitek whitek whitek	N/A
VILER MUTIN	For class I SMPS the insulation between input and output windings via the intermediate conductive parts consist of basic insulation	et with wi	N/A
TEX WALTER	For class II SMPS the insulation between input winding and the body and between the output windings and the body via the intermediate conductive parts consist of double or reinforced insulation.	JEK LIEK MITEK	N/A
BB.19.1.3.4	Parts of output circuits may be connected to protective earth	of let let	N/A
BB.19.1.3.5	No direct contact between output circuits and the body, unless:	the me and a	N/A
	Allowed for associated transformers by the equipment standard	MULL AND AND	N/A
BB.19.1.4	Isolating transformers and safety isolating transformers	White Mill Mill	N/A
BB.19.1.4.1	Input and output circuits electrically separated	STEK ALTER MITE	N/A
ALTER MALE	No possibility of any connection between these circuits	of the text text	N/A
BB.19.1.4.2	The insulation between input and output winding(s) consist of double or reinforced insulation (exception see 19.1.4.4)	et nitest mittet metr	N/A
K ONLIEK	Class I transformers <b>not</b> intended for connection to the mains by a plug:	TET LIET LIES	mur —

THE WITE	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
MULTER MAY	Insulation between input windings and body connected to earth consist of basic insulation rated to the input voltage	White white white	N/A		
LIEK WILLE	Insulation between output windings and body, connected to earth consist of basic insulation rated for the output voltage	et unifer unifer uni	N/A		
EX WALTER	Class I transformers intended for connection to the mains by a plug:	ALTER MITER MITE	N/A		
MUTTER	Insulation between input windings and body connected to earth consist of basic insulation rated to the working voltage	MITEL WAITER WAITER	N/A		
unitek wai Se sek	<ul> <li>Insulation between output windings and body, connected to earth consist of supplementary insulation rated for the working voltage</li> </ul>		N/A		
LIE WELL	Class II transformers	CA ALTER MATER MALE	N/A		
EK WALTER	Insulation between input windings and body consist of double or reinforced insulation rated to the input voltage	WALTER WALTER	N/A		
UNLIFE UN	Insulation between output windings and body consist of double or reinforced insulation, rated to the output voltage	WILLER MUTTER MUTTER A	N/A		
BB.19.1.4.3	For transformers with intermediate conductive parts not connected to the body (between input/output):	antie m	ir _{u ni} r - wi		
BB.19.1.4.3	For class I and class II transformers the insulation between input and output windings, via intermediate conductive parts, consist of double or reinforced insulation, rated to the working voltage.	MUNITER MUNITER MULTER	N/A		
Whitek white	For class II transformers the insulation between input winding and the body and between the output windings and the body via the intermediate conductive parts consist of double or reinforced insulation. (rated to the input voltage, for SELV circuits only basic insulation to the body)	THE MILIE MILIER WILLES	N/A		
WALTER W	<ul> <li>For transformers, different from independent, the insulation between input and output windings, via intermediate conductive parts, consist of double or reinforced insulation, rated to the working voltage.</li> </ul>	MITER WHITER WHITER	N/A		

N/A

N/A

Class I transformers with earthed core, and not allowed for class II equipment

Insulation from the input to the earthed core: basic insulation rated for the input voltage

BB.19.1.4.3.2

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Reference	NO W 1 X 2 X 1 Z 2 4 3 3 Z 2 3	rage 100 of 130		
TER WITE	Write Mur. Mur. M	IEC 61558-2-16	est test tight set	MITE WALTE
Clause	Requirement + Test	EK NITER WILL WILL	Result - Remark	Verdict

Clause IX	requirement i rest	Tresuit - Tremain	Verdict
The And		THE RESERVE STATE	N/A
	Insulation from the output voltage to the earthed core: basic insulation rated for the output voltage	TEL STEE STEEL S	NITER WILLER
BB.19.1.4.3.3	Insulation between : input to intermediate conductive parts and output and intermediate parts consist of at least basic insulation	CER MILER MILER MILE	N/A
ek whitek wh	If the insulation from input or output to the intermediate metal part is less than basic insulation, the part is considered to be connected to input or output.	White white white	N/A
BB.19.1.4.4	For class I transformers, with protective screen, <b>no</b> t connected to the mains by a plug the following conditions comply:	ance was sure .	N/A
TEK WILLER	The insulation between input winding and protective screen consist of basic insulation (rated input voltage)	A MILIER WALTER WHEN	N/A
y whitek whi	The insulation between output winding and protective screen consist of basic insulation (rated output voltage)	WALTER WALTER WALTER	N/A
White White	The protective screen consist of metal foil or a wire wound screen extending the full width of the windings and has no gaps or holes	ANTEK WALTER WALTER W	N/A
iek Mutek	Where the protective screen does not cover the entire width of the input winding, additional insulation to ensure double insulation in this area, is used.	E GLIFF MILITY MILITE	N/A
L WALTER WALT	<ul> <li>If the screen is made by a foil, the turns are isolated, overlap at least 3 mm</li> </ul>	LIER NITER MITER	N/A
NATER WALTER	The cross-section of the screen and the lead out wire is at least corresponding to the rated current of the overload device	DETEK MILITER MILITER MI	N/A
LIEK WALTER O	The lead out wire is soldered or fixed to the protective screen.	Jet milet milet wal	N/A
ek whitek wh	Protective screening is not allowed for transformers with plug connection to the mains	t itel still south	N/A
BB.19.1.4.5	No connection between output circuit and protective earth, except of associated transformers (allowed by equipment standard) or 19.8 is fulfilled.	Whitek whitek whitek	N/A
BB.19.1.4.6	No connection between output circuit and body, except of associated transformers (allowed by equipment standard)	THE WITTER WITTER	N/A
BB.19.1.4.7	The distance between input and output terminals for the connection of external wiring is ≥ 25 mm	mer mer me	N/A
BB.19.1.4.8	Portable transformers having an rated output ≤ 630 VA shall be class II.	MALIE MALIE MALIE	N/A

Reference	e No.: WTX22X12243522S	Page 101 of 138		
VIEW WITE	White Mur, Mur, Mr.	IEC 61558-2-16	ret ret right out	INLIE WALTE
Clause	Requirement + Test	t intiet whit wh	Result - Remark	Verdict
BB.19.1.4	.9 No connection between o	output circuit and body	MULTER MULTER MULTER	N/A

Clause	Requirement + Test	Result - Remark	Verdict
BB.19.1.4.9	No connection between output circuit and body except of associated transformers (allowed by equipment standard)	WHITE WHITE WHITE	N/A
BB.19.1.4.10	Protective screening is not allowed for transformers with plug connection to the mains	et let let	N/A
BB.19.12	Windings construction	They are the	N/A
BB.19.12.1	Undue displacement in all types of transformers not allowed:	WALTER WALTER WALTE	N/A
- LIEN O	of input or output windings or turns thereof	at let let	N/A
78th 7	of internal wiring or wires for external connection	The me me	N/A
The tex	of parts of windings or of internal wiring in case of rupture or loosening	The man and an	N/A
BB.19.12.2	Serrated tape:	the military will	N/A
K WHITEK	distance through insulation according to table 13	TEX STER STER	N/A
*	<ul> <li>one additional layer of serrated tape, and</li> </ul>	m m	N/A
ares are	one additional layer without serration	LIFE RUTER WATER	N/A
NITEK WALTE	<ul> <li>in case of cheek less bobbins the end turns of each layer shall be prevented from being displaced</li> </ul>	the market was	N/A
BB.19.12.3	Insulated windings wires providing basic, supplementary or reinforced insulation, meet the following requirements:	White While while	N/A
MULLI M	Multi-layer extruded or spirally wrapped insulation, passed the tests of annex K	MALIER WALTER WALTER	N/A
WALLEY WAL	Basic insulation: two wrapped or one extruded wire	LIET WHILE MILIER W	N/A
LIEK WALTER	Supplementary insulation: two layers, wrapped or extruded	et mitet mitet mi	N/A
EK WILTER	Reinforced insulation: three layers wrapped or extruded	alter outer outer	N/A
,et	Spirally wrapped insulation:	7, 7	N/A
Mr. Mu	creepage distances between wrapped layers > cl. 26 _ P1 values	Willy Mills Marie	N/A
VII. MUT	path between wrapped layers sealed, the test voltage of K2 is multiplied with 1,35	TEX WAITER WAITER WA	N/A
TERMITE	test 26.2.4 – Test A, passed for wrapped layers	t whitek whitek white	N/A
MULLER	the finished component pass the electric strength test according to cl. 18.3	NUTER WATER SPATER	N/A

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M
6

IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
a)	Insulated winding wire used for basic or supplementary insulation in a wound part:	White white white	N/A	
me m	comply with annex K	ILITER WALL WILL A	N/A	
TEK N	two layers for supplementary insulation	at at at a	N/A	
. 2,	one layer for basic insulation	wir wir we	N/A	
NITEK.	one layer for mechanical separation between the insulated wires of primary and secondary. This layer fulfils the requirement of basic insulation.	Whitek whitek white	N/A	
0)	Insulated winding wire used for reinforced insulation in a wound part:	in in in	N/A	
20.	comply with annex K	in the me of	N/A	
TELL WILLE	three layers	et tet tet wi	N/A	
	relevant dielectric strength test of 18.3	The Me in	N/A	
MULTER	Where the insulated winding wire is wound:	TIER STEEL STEEL	N/A	
.+	upon metal or ferrite cores	111, 21, 11,	N/A	
unia u	upon enamelled wire	NITER MITE MALTE	N/A	
	under enamelled wire		N/A	
ek watel Watel	one layer for mechanical separation between the insulated wires and the core or the enamelled wires is required. This layer fulfils the requirement of basic insulation.	white white white	N/A	
Mr.	both windings shall not touch each other and also not the core.	MILLER WALTER WALTER	N/A	
in _{riter} an	100 % routine test of Annex K3 of part 1 is fulfilled	LIET WHITE WALTER W	N/A	
TEK WILL	no creepage distances and clearances for insulated winding wires	set united united uni	N/A	
WALTER	Toroidal cores used with TIW wires for double or reinforced insulation between the primary and secondary circuits shall comply with the following:	Whitek whitek white	N/A	
WALTE	a coating which fulfils the requirements of basic insulation between a winding and the core	MITEL WHITEL WAITER.	N/A	
TEK WILTE WILTER	2) The primary winding consists of TIW wire with 3 layers (reinforced insulation) and the secondary winding consists of enamelled wire. These independent windings shall not be able to contact each other either by mechanical separation or a gap which fulfil the dielectric strength tests for basic insulation.	TE WHITE WHITE WHITE	N/A	

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
Whitek M	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding consists of T wire with 3 layers and the secondary wire consists of a TIW wire with 1 layer (requirements for primary and secondar windings can be changed). This construalso is allowed for use with EE-cores or similar.	TIW- nding	N/A	
d) Ex	Toroidal cores used with FIW wires for doub reinforced insulation between the primary ar secondary circuits shall comply with the following the secondary core in the secondary circuits shall comply with the following the secondary circuits shall comply with the secondary circuits shall comply circuits shall circuit shall comply circuits shall comply circuits shall circuit shall	nd +	N/A	
UNITEK UN	a coating, which fulfil the requirements of basic insulation.	of the national sub-	N/A	
LIEK WILLE H WILLER	2) The primary winding consists of FIW win reinforced insulation and the secondary winding consist of FIW wire – of basic insulation. These independent windings not be able to contact each other either mechanical separation or a gap which furthe dielectric strength test for basic insulation.	shall by ulfil	N/A	
NITER WATE	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding and the secondary winding consist of FIW wire freinforced insulation. This construction allowed to use for EE-core or similar.	or white wh	N/A	
e)	Toroidal cores used with TIW in combination FIW wire, for double or reinforced insulation between the primary and secondary circuits comply with the following:	at the fifth	N/A	
mrtiet m	a coating, which fulfils the requirements basic insulation.	of white white	N/A	
antiek white	2) The primary winding consists of FIW win reinforced insulation, and the secondary winding consists of TIW wire for basic insulation (1 layer). These independent windings shall not be able to contact each other either by mechanical separation of gap which fulfil the dielectric strength test basic insulation.	ch text white writer white a	N/A	
Prince And	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding consists of T wire for reinforced insulation (3 layer) ar secondary winding consists of FIW wire reinforced insulation. This construction a allowed for use with EE-cores or similar.	TIW  nd the  for  also is	N/A	

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Keletetice	5 NO W 1 X 2 X 1 2 2 4 3 3 2 2 3	Fage 104 01 130		
JIET JULIE	Will mer me me	IEC 61558-2-16	et tet tet atter of	LIE WALTE
Clause	Requirement + Test	EK OLIEK WALL WAL	Result - Remark	Verdict

Clause	Requirement + Test	Result - Remark	Verdict
	mi and an an a	The state of the	1 1/4
f)	Toroidal cores used with TIW in combination with FIW wire, for basic insulation between the primary and secondary circuits shall comply with the following:	rier whiles miles a	N/A
	a coating, which fulfils the requirements of basic insulation	EX UNITEX WALTEX WAS	N/A
TEK WILTER WILTER	2) The primary winding consists of FIW wire for basic insulation, and the secondary winding consists of TIW wire for basic insulation (1 layer). These independent windings shall not be able to contact each other either by mechanical separation or a gap which fulfils the dielectric strength tests for basic insulation.	MILIER WHITE MITER WHITER MITER WHITER	N/A
itek whitek	3) For polyfilar windings (primary and secondary windings in contact with each other), the primary winding consists of TIW wire for supplementary insulation (2 layers) and the secondary winding consists of FIW wire for basic insulation. This construction also is allowed for use with EE-cores or similar.	whitek whitek whitek	N/A
untie un hiret whit set whites hiret	4) Further polyfilar constructions with FIW and TIW wires in combination with enamelled wires for basic insulation only:  4.1) Primary winding consists of enamelled wire, secondary winding consists of FIW wire for reinforced insulation  4.2) Primary winding consists of enamelled wire, secondary winding consists of TIW wire for reinforced insulation	LIER WATER	N/A
BB.19.12.3.	.1 Max. class F for transformers which use FIW-wire	me in m	N/A
BB.19.12.3.	2 FIW wires comply with IEC 60851-5:2008, IEC 60317-0-7 and IEC 60317-56.	LIER WHITE WHITE W	N/A
ek ilek	other nominal diameter as mentioned in table 24 can be calculated with the Formula (6) in 26.3.5:	HAVITER WHITE WHI	N/A
" " " K	FIW wire used for basic or supplementary insulation for transformers according 19.1.3:	MULLE MULL MILL	Mr. M.
MULER ANT	the test voltage of table 14, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 24	ALTER WHITE WHITE .	N/A
TEX WRITER	one layer for mechanical separation is located between the insulated wires of primary and secondary. This layer fulfil the requirement of basic insulation	MULTER WHITER WHITE	N/A

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	IEC 61558-2-16				
Clause	Requirement + Test Result - Remark	Verdic			
WILLER AND	between FIW and enamelled wire, no requirements of creepage distances and clearances	N/A			
	no touch of FIW and enamelled wires	N/A			
r and	FIW wire used for double or reinforced insulation for transformers according 19.1.4:	N/A			
whitek	the test voltage of table 14, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 24	N/A			
NITEK SIN	for primary and secondary winding FIW- wire for basic insulation is used	N/A			
TEK WITE	one layer for mechanical separation is located between the insulated wires of primary and secondary. This layer fulfil the requirement of basic insulation	N/A			
Mrz	no touch between the basic insulated PRI and SEC FIW-wires	N/A			
antifer a	between PRI- and SEC-FIW wires, no requirements of creepage distances and clearances	N/A			
EF STE	Alternative construction used for reinforced insulation (reinforced insulated FIW wire and enamelled wire)	N/A			
WINLIEK.	the test voltage of table 14, based on the working voltage reinforced insulation, comply with the min. voltage strength of table 24	N/A			
ntie w	one layer for mechanical separation is located between the reinforced insulated FIW wire and the enamelled wire. This layer fulfil the requirement of basic insulation	N/A			
WALTER	no touch between the FIW wire and the enamelled wire	N/A			
WILLIER D	between the reinforced FIW wire and any other parts, no requirements of creepage distances and clearances exist	N/A			
LTE MY EX TE	Alternative construction with FIW wires, basic or supplementary insulated for transformers with double or reinforced insulation:	Mile Mile M			
WALTER	the test voltage of table 14, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 24	N/A			

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L. West	IEC 61558-2-16			
Clause	Requirement + Test Result - Remark	Verdict		
WALTER WA	PRI or SEC basic insulated FIW wire and to the other winding (enamelled wire) requirements of supplementary insulation	N/A		
itek mil	creepage distances and clearances     between the basic insulated FIW wire and     the enamelled wire for basic or     supplementary insulation are required.	N/A		
Mrc	Where the FIW wire is wound	N/A		
- LEK	upon metal or ferrite cores	N/A		
WHITEH WAS	one layer for mechanical separation     between the insulated wires and the core     or the enamelled wires is required. This     layer fulfils the requirement of basic     insulation.	N/A		
r sk	both windings shall not touch each other and also not the core.	N/A		
BB.20	COMPONENTS	N/A		
BB.21	INTERNAL WIRING	N/A		
BB.22	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CABLES AND CORDS	N/A		
BB.23	TERMINALS FOR EXTERNAL CONDUCTORS	N/A		
BB.24	PROVISION FOR PROTECTIVE EARTHING	N/A		
BB.25	SCREWS AND CONNECTIONS	N/A		
BB.26	CREEPAGE DISTANCES AND CLEARANCES	N/A		
BB.26.1	See 26.101	N/A		
BB.26.2	Creepage distances (cr) and clearances (cr)	N/A		
BB.26.2.1	Windings covered with adhesive tape	N/A		
<i>y</i>	the values of pollution degree 1 are fulfilled	N/A		
THE MUTT	<ul> <li>all isolating material are classified acc. to IEC 60085 and IEC 60216</li> </ul>	N/A		
et Tex	- test A of 26.2.3 is fulfilled	N/A		
BB.26.2.2	Uncemented insulating parts pollution degree P2 or P3	N/A		
The Th	<ul> <li>all isolating material are classified acc. to IEC 60085 and IEC 60216</li> </ul>	N/A		
ives and	values of pollution degree 1 are not applicable	N/A		
BB.26.2.3	Cemented insulating parts	N/A		
t liet	all isolating materials are classified acc. to IEC 60085 and IEC 60216	N/A		

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11010101101	1 ago 101 01 100					
JIER MITE	white must must must any	IEC 61558-2-16	White white			
Clause	Requirement + Test	Result - Remark	Verdict			

Clause	Requirement + Test	Result - Remark	Verdict
	the one and any any	alt of the officer	The South
TEXT .	<ul> <li>values of distance through insulation (dti) are fulfilled</li> </ul>	mer mer in a	N/A
m, m	creepage distances and clearances are not required	Life while while while	N/A
in with	test A of this sub clause is fulfilled	Ex write write while	N/A
et let	Test A	a state	N/A
"any	- thermal class	WILL WILL AND A	N/A
JER.	<ul><li>working voltage</li></ul>	at the let .	N/A
untlek ann	Test with three specially specimens, with uninsulated wires, without impregnation or potting	(see appended table)	N/A
الله الحار	Two of the three specimens are subjected to:	70 70 7	N/A
il with	the relevant humidity treatment according to 17.2 (48 h)	White white white	N/A
White.	the relevant dielectric strength test of 18.3 multiplied with factor 1,35	MULTER MULTER WALTER W	N/A
WINLTEX WI	One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multiplied by the factor 1,35 immediately at the end of the last cycle with high temperature	LITER WHITER WHITER WHITE	N/A
	Impulse dielectric test according to 4.1.1.2.1 of IEC 60 664-1 (1,2 / 50 s waveform) – see Annex R of IEC 61558-1	white while while	N/A
BB.26.2.4	Enclosed parts, by impregnation or potting	Let Let Liet of	N/A
BB.26.2.4.1	The requirements of reduced values as stated for pollution degree 1 (P1) are fulfilled	and any and any	N/A
	<ul> <li>all isolating materials are classified acc. to IEC 60085 and IEC 60216</li> </ul>	The sure of the	N/A
	Test B	antic moti and	N/A
	- thermal class	at at at	N/A
	<ul><li>working voltage</li></ul>	white Aut was a	N/A
	Test with three specially specimens, potted or impregnated. The dielectric strength test is applied directly to the joint.	(see appended table)	N/A
	Two of the three specimens are subjected to:	TER STEE WITE WITE	N/A
	the relevant humidity treatment according to 17.2 (48 h)	t tet tret stret	N/A
	the relevant dielectric strength test of 18.3 multiplied with factor 1,25	The All All	N/A

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		1
A	7	K
	V	
V		

IEC 61558-2-16					
Clause	Requirement + Test	Result - Remark	Verdict		
antitek an	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	STEK WHITEK WHITEK WHI	N/A		
et whilet	The three spacemen pass the Impulse dielectric test according to 4.1.1.2.1 of IEC 60 664-1 (1,2 / 50 s waveform) – see Annex R of IEC 61558-1	MULTER MULTER MULTER	N/A		
BB.26.2.4.2	The requirements of distance through insulation (dti) are fulfilled. (P1 values are not required)	intifer until until un	N/A		
	<ul> <li>all isolating materials are classified acc. to IEC 60085 and IEC 60216</li> </ul>	The state of the s	N/A		
	Test C	MULL MULL MULL	N/A		
t Jet	- thermal class	at let let	N/A		
20, 1	working voltage	White Mur Mur M	N/A		
WALTER WALT WALTER WALT WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER	Test with three specimens, potted or impregnated. (finished components)	(see appended table)	N/A		
	Neither cracks, nor voids in the insulating compounds	Et MITE MITE	N/A		
	Two of the three specimens are subjected to:	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N/A		
	the relevant humidity treatment according to 17.2 (48 h)	until white while	N/A		
	<ul> <li>the relevant dielectric strength test of 18.3 multiplied with factor 1,35</li> </ul>	unlike whitek whiteh wh	N/A		
	One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multiplied by the factor 1,35 immediately at the end of the last cycle with high temperature	TEX WITER WHITER WHITER	N/A		
	The three spacemen pass the Impulse dielectric test according to 4.1.1.2.1 of IEC 60 664-1 (1,2 / 50 s waveform) – see Annex R of IEC 61558-1	While while while	N/A		
BB.26.3	Distance through insulation	1 1 1 1	N/A		
	For double or reinforced insulation, the required values of Tables 13, C1, and D1 – boxes 2b, 2c and 7 are fulfilled	te unit unit unit	N/A		
	The insulation fulfil the material classification according IEC 60085 or 60216 or the test of 14.3	mer mer mer	N/A		

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Reference	NO W 1 \ \ 2 \ \ 1 \ 2 \ 4 \ 3 \ 2 \ 3	Fage 109 01 130		
THE WITE	With Mr. Mr. M.	IEC 61558-2-16	et the the ste	MITE WITE
Clause Requirement + Test	A WILL MULL AND	Result - Remark	Verdict	

Clause	Requirement + Test	Result - Remark	Verdict
	into our and any are	The title the	of the street
BB.26.3.1	Reduced values of the thickness of insulation for supplementary or reinforced insulation are allowed if the following conditions are fulfilled:	THE WITH WITH	N/A
LIER MLF	the isolating materials are classified acc. to IEC 60085 and IEC 60216	et set set s	N/A
	- the test of 14.3 is fulfilled	The The In	N/A
WALTE	If both requirements are fulfilled, the required values for solid insulation can be multiplied by 0,4	Whitek whitek white	N/A
MUE M	<ul> <li>Minimum thickness of reinforced insulation ≥0,2 mm</li> </ul>	unite white whi.	N/A
	<ul> <li>Minimum thickness of supplementary insulation <u>&gt;</u>0,1 mm</li> </ul>	TER MITTER MITTER	N/A
BB.26.3.2	Insulation in thin sheet form	of the life of	N/A
s Tiles	If the layers are non-separable (glued together):	et let let	N/A
20, 1	The requirement of 3 layers is fulfilled	mure mure mure	N/A
WALTER WA	The mandrel test according 26.3.3 is fulfilled with 150 N	NITES MALTER MALTER O	N/A
ALTEK WALT	<ul> <li>The required values for d.t.i. of Tables 13,</li> <li>C.1 and D.1 – marked by index "e" is fulfilled.</li> </ul>	Et a Mariet un	N/A
IET WITE	If the layers are separated:	The Life Rife	N/A
	The requirement of 2 layers is fulfilled	24. 24. 24.	N/A
White A	If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required	MILITER WALTER WALTER	N/A
	The mandrel test according 26.3.3 is fulfilled on each layer with 50 N	till whit whit w	N/A
ex ritex	<ul> <li>The required values for d.t.i. of Tables 13,</li> <li>C.1 and D.1 – marked by index "e" is fulfilled.</li> </ul>	est while while whi	N/A
10	If the layers are separated (alternative:	mer me me	N/A
NITE OF	- The requirement of 3 layers is fulfilled	et let set	N/A
NLIEK WAL	If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required	TEX WITER WITER AN	N/A
TEK MITEK	The mandrel test according 26.3.3 is fulfilled on 2/3 of the layers with 100 N	et tret tret mit	N/A
MUTIEK A	The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" is fulfilled.	MILES WILES MALIES	N/A

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4			1	1
	4	V	A	Ì
ı		V	1	
		-		

IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
MUTER M	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	ANTER MUTER MUTER MUTE	N/A	
iii ^{ek} whii it it	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:	EX WHITEK WHITEK WHITEK	N/A	
MULL	rated output > 100 VA values in square brackets apply	WHITE WHITE WHILE W	N/A	
White A	<ul> <li>rated output 25 VA 100 VA 2/3 of the value in square brackets apply</li> </ul>	INLIER WALTER WALTER WAL	N/A	
INLIER WA	<ul> <li>rated output 25 VA 1/3 of the value in square brackets apply</li> </ul>	TEX WATER WAITER WATER	N/A	
BB.26.3.3	Mandrel test of insulation in thin sheet form (specimen of 70 mm width are necessary):	* NITER WITER WATER	N/A	
y anitey	If the layers are non-separable – at least 3 layers glued together fulfil the test:	TEK SLIEK MITEK SI	N/A	
	– pull force of 150 N	me m m	N/A	
MULTER MALT	<ul> <li>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.</li> </ul>	nited whited white white	N/A	
EK INLIEN	<ul> <li>If the layers are separable and 2/3 of at least 3 layers fulfil the test.</li> </ul>	- J. Jak street	N/A	
~ .	- pull force of 100 N	my my my	N/A	
WALTEY VA	<ul> <li>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.</li> </ul>	MUTER MUTER WATER WATER	N/A	
LIEK MLT	If the layers are separable 1 of at least 2 layers fulfil the test:	et tet tet stet	N/A	
, " ,	<ul><li>pull force of 50 N</li></ul>	me me m	N/A	
Whitek	<ul> <li>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.</li> </ul>	whitek whitek whiteh w	N/A	
BB.26.101	Creepage distances, clearances and distances through insulation, specified values according to (IEC 61558-2-16:09):	TEX WILLEX MUTER MUTER	N/A	
CENT SE	- table 13, material group IIIa (part 1)	and the set	N/A	
2012	table C, material group II (part 1)	Write Mili Mir C	N/A	
L JEK	- table D, material group I (part 1)	at at at	N/A	
20, 1	working voltage	With White White Mr.	N/A	

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Clause	Requirement + Test Result - Remark	Verdic	
- 15 TT	THE THE THE THE THE	NI/A	
	- rated supply frequency 50/60 Hz	N/A	
	rated internal frequency	N/A	
10 - S	Insulation between input and output circuits (basic insulation):	N/A	
4 C4	a) measured values specified values (mm):	N/A	
ALE S	Insulation between input and output circuits (double or reinforced insulation):	N/A	
MULLEY A	a) measured values specified values (mm):	N/A	
nlife ^{it} our	b) measured values specified values (mm):	N/A	
iek walte	c) measured values specified values (mm):	N/A	
WALTER	Insulation between adjacent input circuits:     measured values specified values     (mm)	N/A	
un ^{liek} w	Insulation between adjacent output circuits: measured values specified values (mm)	N/A	
in whi	Insulation between terminals for external connection:	N/A	
WILL	a) measured values specified values (mm):	N/A	
WALTER.	b) measured values specified values (mm):	N/A	
NLTEX W	c) measured values specified values (mm):	N/A	
	5. Basic or supplementary insulation:	N/A	
in mi	a) measured values specified values (mm)	N/A	
VALLER	b) measured values specified values (mm):	N/A	
MITER	c) measured values specified values (mm)	N/A	
LIFEK NY	d) measured values specified values (mm)	N/A	
EK STE	e) measured values specified values (mm)	N/A	
MITER	6. Reinforced or double insulation: measured values specified values (mm)	N/A	

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	int in the IEC	61558-2-16	
Clause	Requirement + Test	Result - Remark	Verdict

The state of	it we all all the	THE LIFE WILL
10 20	7. Distance through insulation:	N/A
UNLIER WALT	a) measured values specified values (mm)	Tet MILE N/A
TEK WILTER	b) measured values specified values (mm)	N/A
ex antiex a	c) measured values specified values (mm)	N/A
3B.26.102	Values of IEC 61558-2-16 applicable for frequency up to 3 MHz (IEC 61558-2-16:09)	N/A
TEK OF	For frequency above 3 MHz clause 7 of IEC 60664-4 is applicable (high frequency testing)	N/A
BB.26.103	Clearance (IEC 61558-2-16:09)	N/A
LEIK MULTER	a.) Clearance for frequency ≥ 30 kHz according figure 101 two determinations are necessary:	N/A
t whitek w	determination based on peak working voltage according Table 104 :	N/A
	Peak working voltage	N/A
MULL MUT	Basic insulation: required / measured	N/A
LIEK WITE	Double or reinforced insulation: required / measured value	N/A
EK STEK	and alternative if applicable for approximately homogeneous field according to Table 102	N/A
-0	Peak working voltage	N/A
THE SALLES	Basic insulation: required / measured	N/A
TEX CIT	Double or reinforced insulation: required / measured value	N/A
iek milek	determination based on measured r.m.s.     working voltage according Tables 13, C1 and D1 (see clause 26.101)	N/A
y STEK	The minimum clearance is the greater of the two values.	N/A
TEX S	b.) Clearance for frequency ≤ 30 kHz according figure 101 two determinations are necessary:	N/A
rilek avile	determination based on peak working     voltage with recurring peak voltages     according Table 103 :	N/A
et whitet	determination based on measured r.m.s.     working voltage according Tables 13, C1     and D1 (see clause 26.101)	N/A
- MITEK NI	The minimum clearance is the greater of the two values.	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
BB.26.104	The working voltages of Table 102, 103 and 104 are peak voltages including µsec peaks IEC 61558-2-16:09)	White white white	N/A	
LIEK ALIE	The working voltage according to Table 13 of part 1 are r.m.s. voltages	et let let	N/A	
BB.26.105	Creepage distances	and any any	N/A	
WALTE.	Two determinations of creepage distances are necessary (see Figure 102)	WALTER WALTER WALTE	N/A	
MULTER	determination based on measured peak     working voltage according Tables 105 to 110	MITEL MITEL MATER	N/A	
SEE S	Peak working voltage		N/A	
n in	Pollution degree	The MULL MARY MA	N/A	
LIER WALTER	Basic or supplementary insulation: required / measured	* RUEN WHIEN WHI	N/A	
ik whitek s	Double or reinforced insulation: required / measured value	THE STEE BUTER	N/A	
Whitek wh	<ul> <li>determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101)</li> </ul>	WIFE MALTER MALIER	N/A	
nitek maid	If the values based on table 105 to 110 are lower than the relevant values in Tables 13, C.1 or D.1, the higher values shall be applicable	at multer un	N/A	
BB.26.106	Distance through insulation (IEC 61558-2-16:09)	MILL AND AND	N/A	
Whitek W	Instead of partial discharge with high frequency voltage the test of the distance and the calculation of the electric field is applicable under the following conditions:	united united united.	N/A	
<i>i</i> ,, ,,	- the max. frequency is < 10 MHz	ing the the th	N/A	
ILIER WALTE	<ul> <li>the field strength approximately comply with Figure 103</li> </ul>	ek milek milek mi	N/A	
EK WITEK	no voids or gaps are present in between the solid insulation	NLIER MILER MINIS	N/A	
NALTEK	For thick layers d1 $\geq$ 0,75 the peak value of the field strength is $\leq$ 2 kV/mm	LIER SLIER SLIER	N/A	
NITER SINIT	For thin layers d2 ≤ 30 µm the peak value of the field strength is ≤ 10 kV/mm	cet tet tet	N/A	
TEK LIEK	For d1 > d > d2 equation (1) is used for calculation the field strength	L St Set Se	N/A	
BB.26.107 (A1)	For transformers with FIW wires the following test is required	Mari Mari Mari	N/A	
Wer a	10 cycles are required	CALLER MALLE MALLE	N/A	

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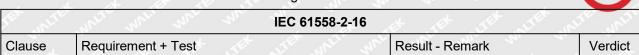
160	The Vite
У.,	12 11

IEC 61558-2-16			
Clause R	equirement + Test	Result - Remark	Verdic
untilk untilk	68 h test at max heating temperature +     10°C or test at max. allowed winding     temperature based on the insulation class     (required in table 1) + 10°C	White whitek whitek	N/A
LIER WILL	• 1 h at 25° C	Et JEK JEK NI	N/A
+ +	• 2 h at 0° C	m n n	N/A
MULL M	1 h at 25° C – (next cycle start again with 68 h max winding temp + 10)	White White White	N/A
WHITE WHIT	during the 10 cycles test 2 x working voltage is connected between PRI and SEC	MITER WAITER WALTER.	N/A
INCT WALES	after 10 cycle test 2 transformers are subjected to the 17.2 test for 48 h and direct after the 48 h the dielectric strength test of 18.3 (100 % test voltage) is done	TER MUTER MUTER ON	N/A
t waitet wai	after the 10 cycle test the third sample is tested at the end of the last cycle in the hot position with the dielectric strength test of 18.3 (100 % test voltage)	Whitek Whitek Whitek	N/A
NAC WALLE	the partial discharge test according to 18.101 is done after the cycling test and after the high voltage test, if the <b>peak</b> working voltage is >750 V	rite white whi	N/A
3B.27	RESISTANCE TO HEAT, FIRE AND TRACKING		N/A
BB.E	ANNEX E , GLOW WIRE TEST	Aury Aur Aur	N/A
MULTER AND	The test is required according to IEC 60695-2-10 and IEC 60695-2-11 with the following additions:	MALIER WALTER WALTER	N/A
BB.E.1	Clause 6, "Severities" of IEC 6095-2-11, apply with the temperature stated in 27.3 of IEC 61558-1	LIER WHITER WILLER W	N/A
BB.E2	Clause 8, "Conditioning", of IEC 60695-2-11 apply, preconditioning is required	ex miles miles mi	N/A
BB.E3	Clause 10, "Test Procedure", of IEC 60695-2-11apply, The tip of the glow wire is applied to the	TER WIEL MILES	N/A

BB.F	ANNEX F, REQUIREMENTS FOR MANUALLY OPERATED SWITCHES WHICH ARE PARTS OF THE TRANSFORMER	N/A
are are	WHICH ARE PARTS OF THE TRANSFORMER	in an

ВВ.Н	ANNEX H, ELECTRONIC CIRCUITS (IEC 61558-1)	N/A
201	01000 1)	on modition

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BB.K	ANNEX K, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION				
BB.K.1	Wire construction:				
LIEK WALTER	insulated winding wire for basic or supplementary insulation (see 19.12.3)	N/A			
EK WALTEK V	insulated winding wire for reinforced insulation (see 19.12.3)	N/A			
INLIEK MIN	splid circular winding wires and stranded winding wires with 0,05 to 5 mm diameter	N/A			
4 /	spirally wrapped insulation - overlapping	N/A			
BB.K.2	Type tests	N/A			
BB.K.2.1	General Tests between ambient temperature between 15° C and 35° C and at an humidity between 45% and 75 %	N/A			
BB K.2.2	Electric strength test	N/A			
BB K.2.2.1	Solid circular winding wires and stranded winding wires				
	Test samples prepared according to clause 4.4.1 of IEC 60851-5:2008 (twisted pair)	N/A			
EK STEK	Dielectric strength test: 6 kV for reinforced insulation				
- 184 20 2	Dielectric strength test: 3 kV for basic or supplementary insulation	N/A			
BB K.2.2.2	Square or rectangular wires .				
NALTEK WALTE	Test samples prepared according to clause 4.7.1 of IEC 60851-5:2008	N/A			
LIEK WALTER	Dielectric strength test: 5,5 kV for reinforced insulation	N/A			
et stet	Dielectric strength test: 2,75 kV for basic or supplementary insulation	N/A			
BB K.2.3	Flexibility and adherence				
WHITE WAL	Claus 5.1 in Test 8 of IEC 60851-3:2009 shall be used				
nliek white	Test samples prepared according to clause 5.1.1.4 of IEC 60851-3:2009	N/A			
TEX WITEK	Dielectric strength test: 5,5 kV for reinforced insulation	N/A			
t nitet an	Dielectric strength test: 2,75 kV for basic or supplementary insulation	N/A			
70, 0,	Mandrel diameter according table K.1	N/A			



N/A

mandrel BB.K.2.4 Heat sho Test sar Test 9) o high Diele insu	sion to the wire during winding on is 118 N/mm² (118 MPa)	Result - Remark	Verdic N/A
mandrel BB.K.2.4 Heat sho Test sar Test 9) o high Diele insu	is 118 N/mm² (118 MPa)	Value and the control of	N/A
Test sar Test 9) o • high • Diele insu	ock		10
Test 9) o    high    Diele insu    Diele	JOIN AND AND AND AND AND AND AND AND AND AN	WITE WALL WALL W	N/A
Diele insu     Diele	nples prepared according to 3.1.1 (in of IEC 60851-6:1996	Let stiet milet mil	N/A
insu  • Diele	voltage test immediately after this test	1 1 1 N	N/A
	ectric strength test: 5,5 kV for reinforced ation	White white white	N/A
sup	ectric strength test: 2,75 kV for basic or olementary insulation	NITER WHITE WHITE	N/A
77.00	n of dielectric strength after bending specified under test 13 of 4.6.1 c) of	or tex orites united or	N/A

high voltage test immediately after this test

Dielectric strength test: 5,5 kV for reinforced

Dielectric strength test: 2,75 kV for basic or

Dielectric strength test: 4,2 kV for

Solid circular winding wires and stranded

Test with a twisted pair, prepared according

Dielectric strength test: 3 kV for basic or

Samples prepared according to clause 4.7.1

Dielectric strength test: 5,5 kV for

Dielectric strength test: 6 kV for

Dielectric strength test: 2,1 kV for basic or

insulation

General

Routine test

Sampling test

winding wires

**BB.K.3** 

BB.K.3.1

BB K.3.2

BB K.3.3

BB K.3.3.1

BB K.3.3.2

supplementary insulation

Tests as subjected in K.3.2 and K.3.3

reinforced insulation

supplementary insulation

clause 4.4.1 of IEC 60851-5:2008

supplementary insulation

reinforced insulation

reinforced insulation

Square rectangular wire

of IEC 60851-5:2008

Testing during manufacturing

Reference No.: WTX22X12243522S	Page 117 of 138

	IEC 61558-2-16		WILLE WALTE
Clause	Requirement + Test	Result - Remark	Verdict
An Cir	Dielectric strength test: 3 kV for basic or supplementary insulation	While while white	N/A

BB.U	ANNEX U – INFORMATIVE – OPTIONAL TW – MARKING FOR TRANSFORMERS	N/A
V- A	ANNEX V, SYMBOLS TO BE USED FOR THERMAL CUT-OUTS	N/A

BB.26.2 TEST A	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION						N/A	
		with three special prepared specimens with sulated wires, without potting or impregnation						
cycles 2 x working betwee pri / s	y voltage een	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 ho 0 °		1 hour 25 °C		
1.	JEF .	LIE MILE WALL	mr. m	1		L 2+	et i	et s
2. 😘	2, 0		et set	- Ties	1,11	الله المالية	in m	The.
3.	TEN J	ex alle arte a	47. M	20,	,	-	. t	A EX
4.	. 'n	20, 20	at 18th	Jet	LITER	WILL WILL	mur.	Me
5.			7	100	9,		· · · · · ·	zet-
6. with	40	Y F A Y	, tit	46 C	.15	The state of	West of	Vr. 1
7	A 77		100		- 3	N. P.		4
8.	- Mr.	1— 4— 1— 1— 1— 1— 1— 1— 1— 1— 1— 1— 1— 1— 1—	. St. 16	6 K		C. ST.	NITE WA	, an
9.	et .	CENT SEE STEE	with when	27/2	10	7, 7		٠. ١
10.	hr. m	20, 20,	4 1		4	E GERT	The section	" The

BB.26.2 TEST B	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION						
7 24 C 24		h three specially prepa P1 values are require		s with	VII. MULL	ang an	£ .6
cycles v 2 x working betwe pri / s	voltage en	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C	1 hour 25 °C	EX MULEX	WALTER.
1.	+ ,0	- TEK TEK M	LE MALL	ine in	111 12		٠,٠
2.	"Wen,	The The	1 1	et set	TER STER	CLIE N	VILL OIL
3.		et set of	" INLI" WI	is the !	11. 11.	10. 1	
4.	aren.	The August August		* #	Let Let	LITER OUT	in and
5.		at at when	NITE WALL	WE M	10, 1	n, 20,	
6.	ULTER OF	er, mer m	-70, -7	, t	+ let .	TER THE	NITE.
7.		e et et	ALTER OLIE	WILL MALL	100, 100	(4)	-0"

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IEC 61558-2-16							
Clause	Requirement + Test	Result - Remark	Verdict				

BB.26.2 TEST B	177	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION							
ne n		h three specially prepa P1 values are require		s with	Muris Aur	" Alle	2.jr		
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	JANLIE V			
8.	, et	CENT SER STEEL	writer where	11/2 11/2	"		ر ا		
9.	are are	The This	, , , , , , , , , , , , , , , , , , ,	alt de		I E JALIE	West		
10.		L it it	THE CL	are are	20. 10.				

BB.26.2 TEST C	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION						N/A		
W WILLER		Test with three specially prepared specimens with potting (only dti is required)							
cycles 2 x working betwe pri / s	g voltage een	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C	1 hour 25 °C	THE WILLER	WALTER		
1.	10	20, 1	74	. d . d+	2 / 150	E WITE .	الماريخي الما		
2.		\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	WILL S		100	7			
3.					1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	STEEL IN	The age		
4.		at at at	intite unit	anti an	in in	4			
5.	neter on	it with any	, ,	* 4	t zer	THE LIFE	NITE		
6.		e st st	LIER BLIE	antite white	Mr. M				
7.	TER INT	White Aut. A		* *	Alt A	et set	LITER		
8.	, ,		EX STER	ALTE MALTE	Wer wer	100	a, ,		
9.	, CLIE	WELL WILL MY	4, 4		at at	- Ret	LIEB N		
10.	-20,	4 1	100	ET STE	in are	10 m			

BB.26.3.5	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION						N/A	
2, ,	Test for	Test for transformers, use FIW-wire						
cycles 2 x working betwee pri / s	g voltage een	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C	1 hour 25 °C	MALTER W	nite w Fex anti	
1.		at at which	NITE SINIT	WE THE	10. 1	1. 20.		
2.	الد المالية	it with the	'n, ',	, t	et eet .	iek jie	· Sile	
3.	M		THE SITE	White Will	mr m	20	10.	

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٠	CIEN.	WILL WILL

		3 11 11	
IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict

BB.26.3.5		BLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES ROUGH INSULATION					
me m	Test for	transformers, use FIW	-wire	JEE STEE	mile mi	. July	m.
cycles 2 x working betwe pri / s	voltage en	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hour 0 °C	1 hour 25 °C	onlitek o	NLTEX V
4.	ar a	1. 20. 2	4 4	L CERT N	TEN MITE	aris and	in
5.	LET .	TEX TEX STE	Wille Mar	14. 14.			بر با
6., 0	r. 24	70, 20,	1 11	76t JE	CLIEB OF	C. WILL	Mrr.
7.	et de	L THE THE	The Water	the the	10, 1,		,+
8.	, mr	21/2, 211, 21,		Let Let	JER JU	CLIT .	aren .
9.	+	Alt Set S	aner w	in the	1. 1.	7	
10.	and .	me an an		.t	LET LET	J. C. C.	a la

BB 18.2 TABLE: in	sulation resistance	e measurements	Mur Mur M	N/A
Insulation resistance R b	etween:	R (MΩ)	Required R (	ΜΩ)
2, 2	st st s	Ex retire Will Mill	The the	7, ,
THE IT IN TO	Cr. 1 2/2		A SET	The sale
Supplementary informati	ion:	white the	The sale	Alt Ali

BB 18.3	TABLE: Dielectric Strength	in any and	N/A
Test voltage	applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Set S		70 7 7	Let Let Stet .
m m	A St. Alt. Lifety	CLIFE WITE WITE	Arran Maria
JEK JIEK	MITEL MALL WALL WILL WILL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Et JET JET NI
. 71	The second of the second of	TER WILL WILL ON	in the the top
Supplementa	ary information:	1 1 1 1 K	the cited action parties

BB 26	TABLE: Clearance And Creepage Distance Measurements				N/A		
clearance cla	and creepage at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
VEL WHE	The The	-121	- Let	TEK JIE	" "LITE" N	it will	ne w
at at	TEX TEX	CLIFE WILL	me n	10	20, 1	L 3+	et i
in me	ang ang	7	LEF S	EN LIEN	INLIES MILI	When an	210
+ Let	TEX TEX N	is with	me me	10,		J+ J	y (6)
Supplementa	ary information:	I WALLEY	unite wi	WALL OF		WILL MULL	<i>*</i>

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VIEW WILLE	The man and the the	C 61558-2-16	WITE WITE
Clause	Requirement + Test	Result - Remark	Verdict

BB 26	TABLE: Distance Through Insulation Measurements			N/A	
Distance through insulation di at/of:  U r.m.s.  (V)  Test voltage (N)  (mm)					
TEK NI	TER MALL WALL WALL WALL	No.	at at	JEK JEK	MITER
	at at alt alt	LIFE WALLE	ance and	11, 11,	
PLIFE	White and and any	31 _x+	et et	TEX TIER	ALTE ON
		TEN SINCE	Ly me n	1. 19. 2	

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7/1	IEC61558_2_16I	E ATTACHMENT	mr. mr.
Clause	Requirement + Test	Result - Remark	Verdict

### ATTACHMENT TO TEST REPORT

# IEC 61558-2-16 AUSTRALIA/NEW ZEALAND NATIONAL DIFFERENCES

(Safety of power transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Safety -

Part 2-16: Particular requirements and tests switch mode power supply units and transformers for switch mode power supply units)

AS/NZS 61558.2.16:2010 + A1:2010 + A2:2012 + A3:2014

TRF template used:..... IECEE OD-2020-F3, Ed. 1.1

Attachment Form No...... AU_NZ_ND_IEC61558_2_16E

Attachment Originator.....: NZ Electrotechnical Committee/Standards New Zealand

Master Attachment...... 2022-12-22

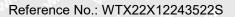
Copyright @ 2022 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

	National Differences	70, ,
5	GENERAL CONDITIONS FOR THE TESTS	TE P
5.2	Add the following variation:	N/A
TEK WALTER	If the tests of AZ.19.201 need to be performed they are carried out on separate specimens, the number of specimens is that required by AS/NZS 3112.  (AS/NZS 61558.1:2008/A3:2020)	N/A
5.5	Replace the text with the following variation:	P
irek mur	For a.c., test voltages are of substantially sinusoidal wave form, and, if not otherwise specified, have a frequency of 50 Hz.  (AS/NZS 61558.1:2008)	TEL UN EL UN
16	MECHANICAL STRENGTH	N/A
16.4	Replace the text with the following variation:	N/A
WALTER	VOID (AS/NZS 61558.1:2008/A3:2020)	N/A
19	CONSTRUCTION	N/A
19.15	Replace the test specification with the following variation:	N/A
TEK WALT	VOID (AS/NZS 61558.1:2008/A3:2020)	N/A
19.16	Replace the text with the following variation:	N/A





20	IEC61558_2_16E ATTACHM	ENT	-
Clause	Requirement + Test	Result - Remark	Verdict
711.	VOID (AS/NZS 61558.1:2008)	White Must and And	N/A
me m	Insert the following variation	CLIFE WALL WALL WALL	N/A
19.201	Transformers having integral pins for insertion into socket outlets shall comply with the appropriate requirements of AS/NZS 3112.	ex writer writer writer	N/A
IEK WALTER	Compliance is checked as specified in Appendix J of AS/NZS 3112 (AS/NZS 61558.1:2008/A3:2020)	WILLER WHITER WHITER WA	N/A
20	COMPONENTS	STEE WITE WITE WILL	N/A
at	Replace the first paragraph with the following variati	ion:	N/A
tret write	Components shall comply with the safety requirements specified in the relevant IEC or Australian/New Zealand Standards as far as they reasonably apply.  (AS/NZS 61558.1:2008)  Replace the third paragraph with the following variance.	MULTER WALTER WALLE	N/A
The river	Compliance with the IEC or Australian/New		N/A
	Zealand Standards for the relevant component does not necessarily ensure compliance with the requirements of this Standard (AS/NZS 61558.1:2008)	WILER MUTER MUTER MUTER	N/A
20.5	Insert the following variation:	THE MALL WALL	N/A
iek mute	Plugs and socket-outlets for SELV systems may also comply with the requirements of Appendix E in AS/NZS 3112 (AS/NZS 61558.1:2008/A3:2020)	MULTE MULTER M	N/A
22	SUPPLY CONNECTION AND OTHER EXTERNAL CORDS	FLEXIBLE CABLES OR	P
22.4	Replace the text by the following variation:	THE STEE STEE SOUTH	N/A
LIEK MLI	VOID. (AS/NZS 61558.1:2008)	et set set stet	N/A
22.6	Replace the text by the following variation	me me me	Р
White w	Power supply cords may be cord sets fitted with appliance couplers in accordance with IEC 60320, provided the transformers are single-phase portable transformers with input current not exceeding 10 A at the rated output (AS/NZS 61558.1:2008)	Whitek whitek whitek white	TE METER
22.8	Replace the second paragraph in the requirement, v	with the following variation:	N/A
TEX WHITE	Power supply cords of portable transformers shall be fitted with an appropriately rated plug complying with AS/NZS 3112 or AS/NZS 3123 or IEC 60309 (AS/NZS 61558.1:2008)	AND THE WATER WATER	N/A





	IEC61558_2_16E ATTACHM	ENT	
Clause	Requirement + Test	Result - Remark	Verdic
ANNEX H	ELECTRONIC CIRCUITS		- P
H.2.1	Add the following to the test specification after the existing third paragraph		Р
ALTER WALLE	The no-load output voltage at an SELV appliance outlet or connector shall not increase by more than 10% of its no-load output voltage in normal use. (AS/NZS 61558.1:2008/A2:2015)	Max. 3.8% (for model GTM96300-2307.5-2.5-T3) Max. 1.39% (for model GTM96300-3619.5-1.5-T3)	P
		Max.0.69% (for model GTM96300-3648-T2)	E. WILL
		Max1.071% (for model GTM96300-3656-T3) Max. 3.8% (for model	ONLIER
MITER WAL		GTM91120-3007.5-2.5-T3A) Max.0.88% (for model GTM91120-3048-T2)	WALTER V
	The no-load output voltage of a USB outlet or connector shall not increase by more than 3 V or 10% of its no-load output voltage in normal use, whichever is higher.  (AS/NZS 61558.1:2008/A2:2015)	Whitek muties muter mut	N/A
WILLIEM THE	Special national conditions (if any)		N/A
	Australia		N/A
85 ^(c) .5 ^(c)	MARKING AND OTHER INFORMATION		Р
8.1	After Item a) insert the following variation:		Р
	The marking of rated voltage or rated voltage range of single-phase transformers shall cover 240 V and for polyphase transformers, 415 V (AS/NZS 61558.1:2020)	White white whi	Р
	New Zealand		Р
8 300	MARKING AND OTHER INFORMATION		P
8.1 LIFET WINTER	After Item a) insert the following variation:	the man my man	Р
	The marking of rated voltage of single-phase transformers shall be 230 V and for polyphase transformers shall be 400 V. The marking of rated voltage range of single-phase transformers shall cover 230 V and for polyphase transformers, 400 V (AS/NZS 61558.1:2020)	JUNITER WHITER WHITER WHITE	Р

# W

## PHOTO:

Model: GTM96300-2307.5-2.5-T3



Photo 1



Photo 2





Photo 3

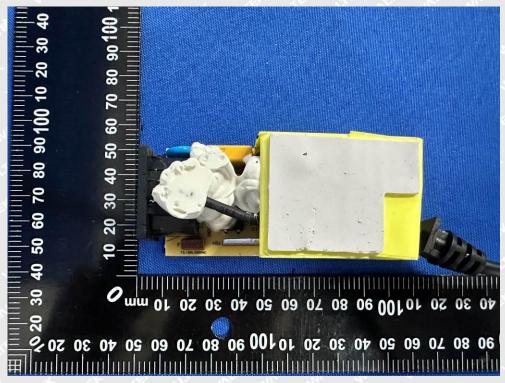


Photo 4



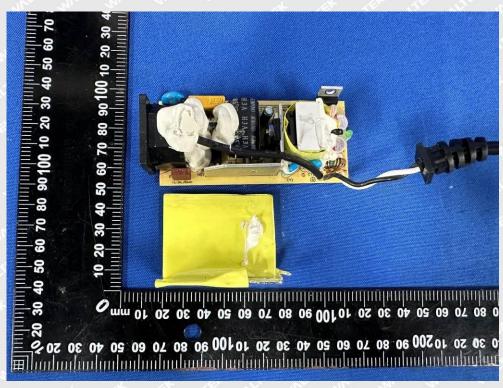


Photo 5

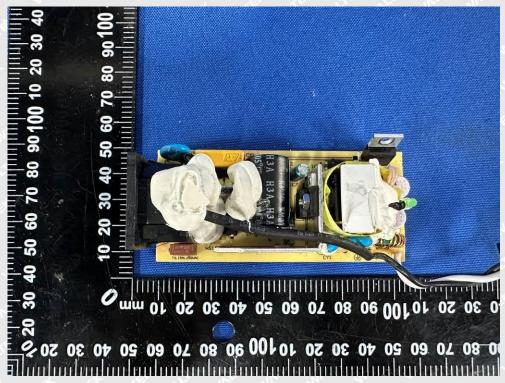


Photo 6





Photo 7

Model: GTM96300-3648-T2



Photo 8



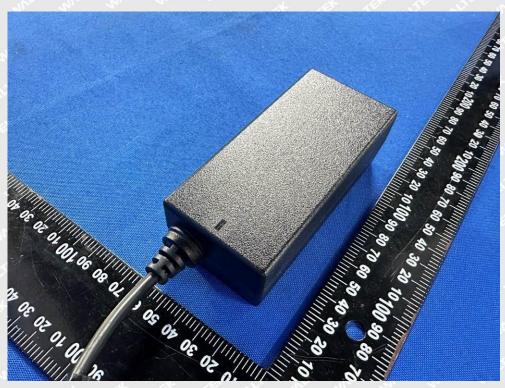


Photo 9

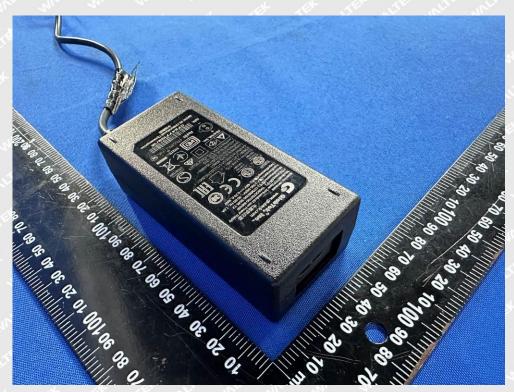


Photo 10





Photo 11

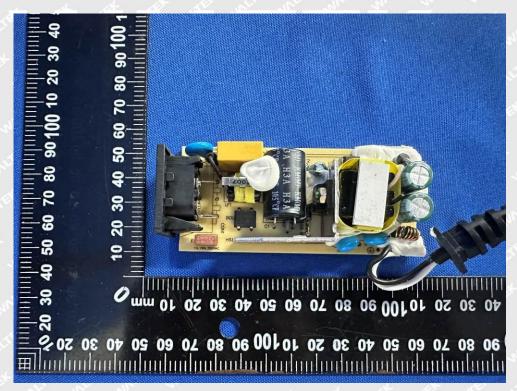


Photo 12



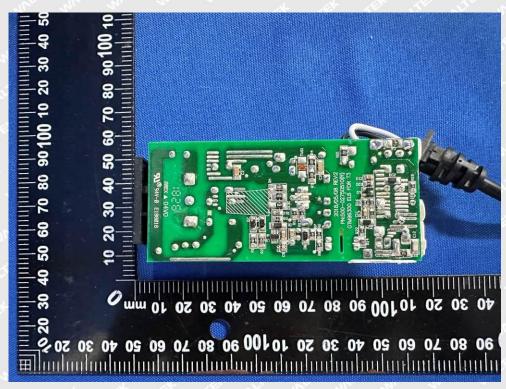


Photo 13

Model: GTM91120-3007.5-2.5-T2



Photo 14





Photo 15



Photo 16



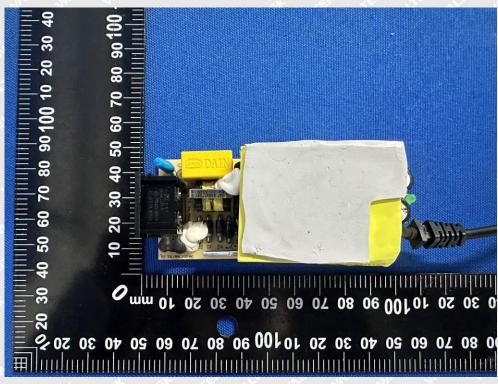


Photo 17

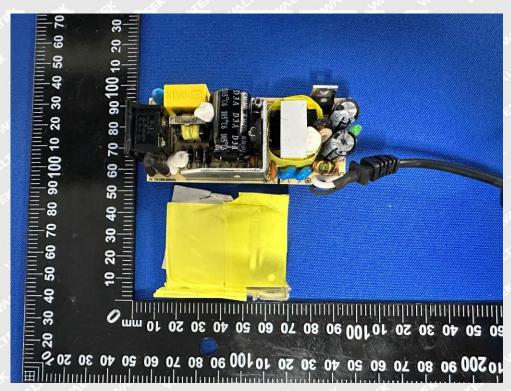


Photo 18



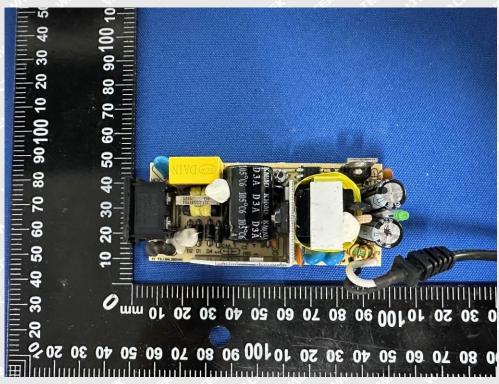


Photo 19

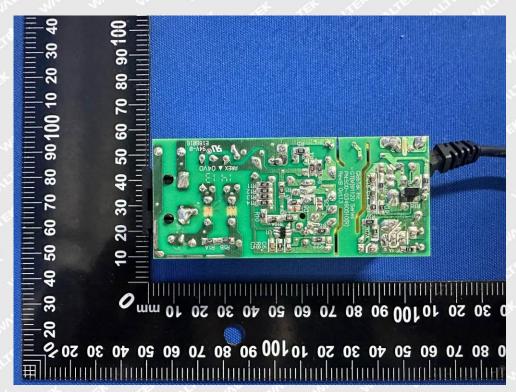


Photo 20

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Model: GTM91120-3048-T3



Photo 21



Photo 22



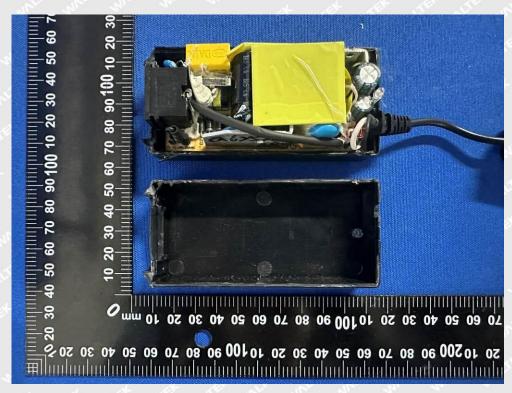


Photo 23

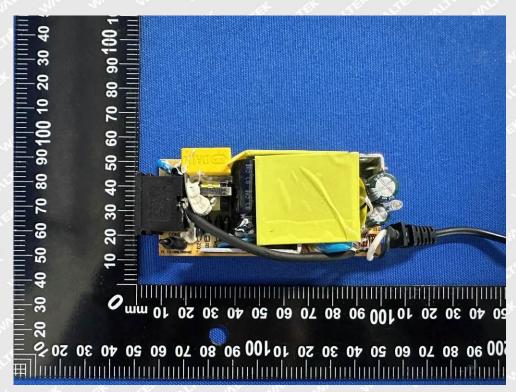


Photo 24





Photo 25

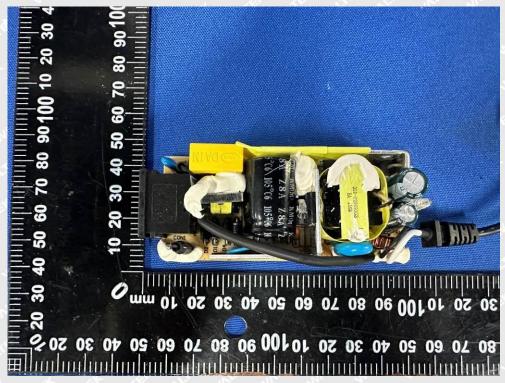


Photo 26



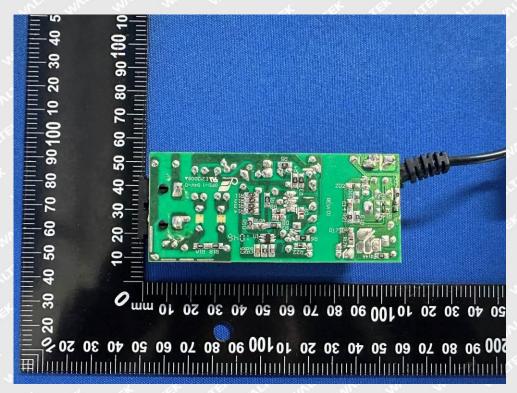


Photo 27

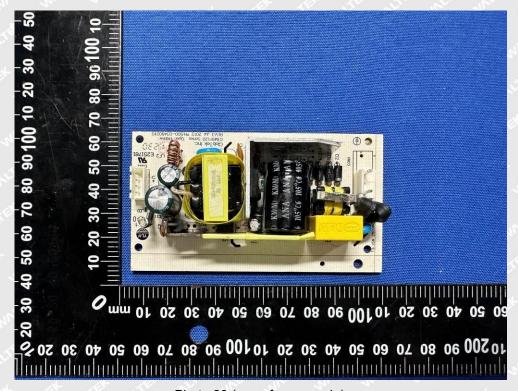


Photo 28 (open frame mode)



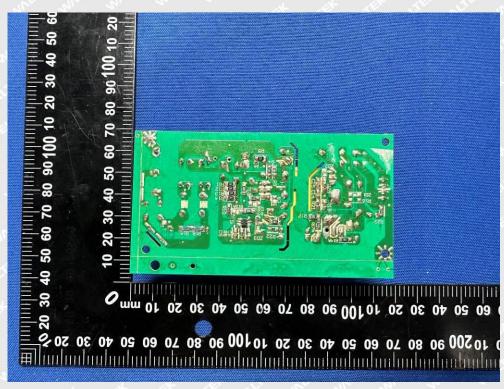


Photo 29 (open frame mode)

===== End of Report =====