



TEST REPORT

Reference No	: 4	WTX22X08157378S
Applicant	:	GlobTek, Inc.
Address	n,	186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer	NET E	The same as above
Address	_+	The same as above
Product Name		ITE POWER SUPPLY

Model No.....: GT*961200P****, GT*96900P****

(see general product information for model designation)

Test specification.....: IEC 61558-2-16:2009+A1:2013 used in conjunction with IEC 61558-1

2005 + A1:2009 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 sup-

ply units and transformers for switch mode power supply units

Date of Receipt sample : 2022-08-10

Date of Test..... 2022-08-10 to 2022-08-26

Date of Issue..... : 2022-09-08

Test Report Form No. : WTX IEC61558 2-16 2009B

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

Tel:+86-755-33663308 Fax:+86-755-33663309 Email: sem@waltek.com.cn

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

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Test item description	
Trademark:	GlobTek, Inc.
Model and/or type reference:	GT*961200P****, GT*96900P**** (see general product information for model designation)
Serial number	I WALL IN THE STEEL WITCH MUTE MUTTE MUST M
Rating(s)	Input: 100-240V~ 50-60Hz 1.5A
THE MET MET ME ME	Output: (details see next page)
Remark: Whether parts of tests for the product ☐ Yes ☐ No	have been subcontracted to other labs:
If Yes, list the related test items and lab in Test items:	formation:
Lab information:	of the write many and any and any
Summary of testing:	

Tests performed (name of test and test clause):

- IEC 61558-2-16:2009+A1:2013
- IEC 61558-1 2005 + A1:2009
- AS/NZS 61558.1:2008+A1:2009+A2:2015
- AS/NZS 61558.2.16:2010+A2:2012+A3:2014

The submitted samples were found to comply with the requirements of above specification.

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:

List of countries addressed: AU

AU=Australia

The product fulfils the requirements of Australia and New Zealand National Differences AS/NZS 61558.1:2008+A1:2009+A2:2015 and AS/NZS 61558.2.16:2010+A2:2012+A3:2014



Copy of marking plate:



Fuente de alimentación de ITE/адаптер питания ITE / Medical Power Supply/ 电源供应器 PART NO/Parte/номер/料号:

MODEL/Modelo/модель/型号: GTM961200P11112-T3 INPUT/Entrada/вводить/输入:100-240V~, 50-60Hz, 1.5A OUTPUT/Salida/экспорт/输出: 12V === 9.25A,111W



4007497

Intertek



Conforms to AAMI STD. ES60601-1 Certified to CAN/CSA STD.C22.2 NO.60601-1 Conforms to UL STD, 60950-1 Certified to CSA STD C22.2 NO.60950-1













GlobTek, Inc.















000158101/07

RoHS

MADE IN CHINA / Китай Производство Hecho en China 中国制造





电源供应器

ITE / Medical Power Supply/Household Power Supply Fuente de alimentación de ITE/адаптер питания

REF P/N /Parte/Homep/料号:

MODEL/Modelo/модель/型号: GTM96900P9012-T3 INPUT/Entrada/вводить/输入: 100-240V~,50-60Hz,1.5A OUTPUT/Salida/экспорт输出: 12.0V === 7.5A,90.0W









Conforms to UL Std.62368-1 Cert. to CSA Std.C22.2 No.62368-1 Conforms to UL STD. 60950-1 Certified to CSA STD C22.2 NO.60950-1 Conforms to AAMI STD.ES60601-1 Certified to CAN/CSA STD.C22.2 NO.60601-1

























MADE IN CHINA/Китай Производство 中国制造/Hecho en China



Test item particulars:

ing transformer

Application: ITE Power supply

GTM96900P9015-T3)

Class II (model: GTM961200P12054-T2,

GTM96900P9054-T2)

Protection index....: IPX0

Other characteristics...... Weight: 520g Max.

Possible test case verdicts:

- test object does meet the requirement...... P (Pass)

- test object does not meet the requirement...... F (Fail)

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.



General product information:

Product covered by this report is ITE power supply module.

One type is power adapter, which can be used with detachable power supply cord. Different appliance inlets can be interchangeable on the device, which can provide earthing connection or not. Protective earthing connection to secondary circuit by internal wiring is optional, so it can be Class I or Class II construction or Class II with functional earth. Both two constructions are in consideration in this report. Two pieces of outer enclosure are enclosed with ultrasonic welding and screws.

The installation and use for the insulation construction shall be finally determined in the end product. The unit is approved for TN mains star connections. The unit provides internally two fuse locations, the first fuse F1 is required, the second fuse F2 is optional.

All the types are designed for continuous operation.

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

Model Differences:

GT*961200P****, GT*96900P****

- 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 "-120", with interval of 1 and "-" can be omitted.
- 3. The 3rd "*" denotes the standard rated output voltage designation, which can be "12" to "54" or "12.0" to "54.0" in 0.1V increments.
- 4. The 4th "*" = -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
 - = -T3TAB means desktop class I or class II with functional earth with C14 AC inlet and housing with a tab.
 - = -TW means desktop class II with input wire without plug
 - = -TW3 means desktop class I or class II with functional earth with input wire without plug
 - = -TP means desktop class II with power supply cord with plug
 - = -TP3 means desktop class I or class II with functional earth with power supply cord with plug
- 5. The last * denote any six character = 0-9 or A-Z or ()[] or or blank for marketing purposes.

Model rating list:

Model	Rated output voltage range (Vdc)	Max. rated output current (A)	Max. rated output power (W)
GT*96900P**- T2/T2A/T3/T3A/T3TAB/ TW/TW3/TP/TP3	12-54Vdc	7.5	90
GT*961200P**- T2/T2A/T3/T3A/T3TAB/ TW/TW3/TP/TP3	12-14.9Vdc	9.2	111
GT*961200P**- T2/T2A/T3/T3A/T3TAB/ TW/TW3/TP/TP3	15-54 Vdc	- Market 8 Market W	120

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
8	MARKING AND OTHER INFORMATION	while while while w	Р
8.1	Transformer marked with:	at at at it	Р
4, 4,	a) rated supply voltage or voltage range (V):	100-240V ~	Р
i ^{el} ni	b) rated output voltage (V)		P
	c) rated output (VA, kVA or W)		N/A
A STATE	d) rated output current (A)		Р
	e) rated frequency (Hz)		Р
NULLE Y	f) rated power factor (if not 1):		N/A
VIZER DIL	g) symbol AC for alternating current, or DC for direct current-output	The symbol ── for DC The symbol ─ for AC	P
iek _{wni} r	h) symbol for electrical function (according to one or more part's 2) in addition with the symbol for SMPS (IEC 61558-2-16:09)	For example:	un IEK P
WALTER	i) manufacturer's name or trademark or name of the responsible vendor	See marking label	P
Alex	j) model or type reference	See marking label	P
il.	k) vector group according to IEC 60076 for three- phase transformer	Single-phase	N/A
ir in	I) symbol for Class II	Until whit	W PW
With	m) symbol for Class III	CLIFE WILL WALLY	N/A
, et	n) index IPXX if other than IP00	IPX0	P.O
ant.	o) rated max. ambient temperature ta (if not 25 °C):	MULTE MALLE MILL ME	N/A
iek "u	p) rated minimum ambient temperature ta min, if <10° C and if a temperature sensitive device is used	NITER WALTER WALTER WALTER	N/A
SINTER Lantifer	q) short-time duty cycle: operating time Intermittent duty cycle: operating and resting time (e.g. 5min/30min)	the white white white	N/A
MULTER MAN	r) for tw-marked transformers marked with the rated max. operating temperature, increased by multiples of 5 (e.g. tw 120; tw 125)	Will write writer and	N/A
	s) transformers used with forced air cooling shall be marked with "AF" in m/s	Tex size miles write	N/A
EK NITE	t) Information from the manufacturer to the purchaser (data sheet) :	at the ties with	N/A
LIET	short-circuit voltage (% rated supply voltage) for stationary transformers > 1000 VA	in in the	N/A
-A136 0	N 70 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11. 12. 12. 12.	

N/A

electrical function of the transformer

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i. Wr.	IEC 61558-2-16	the terminal with the	r. Wr
Clause	Requirement + Test	Result - Remark	Verdict
8.2	Marking for transformers IP00 or for associated transformers: type and trademark, instruction sheets	Whit white the text	N/A
8.3	Adjusted voltage easily and clearly discernible	Will Mary Mary May	N/A
8.4	For each tapping or winding: rated output voltage and rated output	TER WILLER WILLIAM	N/A
er nite	necessary connections clearly indicated	t tex tex wife w	N/A
8.5	For short-circuit proof transformers or non-inherently short-circuit proof transformers:	Non-replaceable protective device only	N/A
INLIEK OIL	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:	THE MULTER MULTER WALLER	N/A
ANNITER TO THE STATE OF THE STA	Manufacturer's model or type reference and rating of the device for non-inherently short-circuit proof transformers with incorporated replaceable protective device (other than fuses)		N/A
MALTER W	Construction sheet for transformers with replacea- ble protective device (other than fuses) information with information about the replacement.	NITER MILIER WALTER	N/A
8.6	Terminals for neutral: "N"	The state of	N/A
er de	Terminal for protective earth marked with earthing symbol		Р
. In.	Identification of input terminals: "PRI"	write with mir m	N/A
- 164	Identification of output terminals: "SEC"	at at alt of	N/A
ALL Y	Symbol for any point/terminal in connection with frame or core	# 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N/A
8.7	Indication for correct connection	See marking label	Р
8.8	Instruction sheet for type X, Y, Z attachments	at at let set	N/A
8.9	Transformer for indoor use shall be marked with the relevant symbol.		Р
8.10	Symbol for Class II construction not confused with maker's name or trademark.	See marking label	P
anr. a	Class II transformer with parts to be mounted – delivered with all parts for class II after mounting.	White Multer Multer Mult.	N/A
NITE WAS	Symbol for class II transformer placed on the part which provides class II.	TER WITER WITER WITE	y P. W
8.11	Correct symbols:	at let tet tee .	P
70,	Volts	A me me me	Р
MLTE	Amperes	A (mA)	Р
	Volt amperes (or volt-amperes reactive for reactors)	VA or (VAR)	N/A

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IEC 61558-2-16			WILL WILL
Clause	Requirement + Test	Result - Remark	Verdic
ALC:	Watts	W	Р
A CONTRACTOR OF THE PARTY OF TH	Hertz	Hz	P
4 4	Input	PRI	N/A
jet "ci	Output	SEC	N/A
	Direct current	d.c. (DC) or ====	Р
L MILLER	Neutral	N ART SET SET	P
	Single-phase a.c.	~	Р
Mr. C	Three-phase a.c.	3~	N/A
<u>,</u>	Three-phase and neutral a.c.	3/N ∼	N/A
Ver an	Power factor	cos φ	N/A
ich "I	Class II construction		P
الني النار -	Class III construction	(iii)	N/A
- Maria	Fuse-link	WALL WALL WALL	N/A
Cler	Rated max. ambient temperature	at at 1st.	N/A
11. 1	Frame or core terminal	mi mi m m	N/A
LIER WAL	Protective earth		P
* 4E	IP number	IPX0	Р
n.	Earth (ground for functional earth)	The Mile Will Will	N/A
WALTER.	For indoor use only		ALTE NA
J.	tw5 YYY	24. 24.	N/A
Vr. M	tw10 YYY	LIER WILL WILL MILE	N/A
d 1	twx YYY		N/A
, an	Additional Symbols (IEC 61558-2-16:09)	VIET WITE WALL WALL	A Pu
K WILLER	SMPS incorporating a Fail-safe separating transformer	F or F	N/A
MULTEK A	SMPS incorporating a Non-short-circuit-proof separating transformer		N/A
LITER WA	SMPS incorporating a Short-circuit-proof separating transformer (inherently or non-inherently)	or O	N/A
WELL	SMPS incorporating a Fail-safe isolating transformer	F or DF	N/A
MULTE	SMPS incorporating a Non-short-circuit-proof isolating transformer	A M	N/A

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
WALLEY W	SMPS incorporating a Short-circuit-proof isolating transformer (inherently or non-inherently)	or O	N/A	
LIEK OL	SMPS incorporating a Fail-safe safety isolating transformer	F (A)	N/A	
EX MILIE	SMPS incorporating a Non-short-circuit-proof safety isolating transformer		N/A	
WALTER	SMPS incorporating a Short-circuit-proof safety isolating transformer (inherently or non-inherently)		P	
in ^{liek} on	SMPS incorporating a Fail-safe auto-transformer	O _F or O _F	N/A	
TEX WALF	SMPS incorporating a Non-short-circuit proof auto-transformer	or -O	N/A	
MULTER	SMPS incorporating a Short-circuit proof auto-transformer (inherently or non-inherently)	∂ or -∕O	N/A	
anco a	SMPS (Switch mode power supply unit)	s v	Р	
8.12	Figures, letters or other visual means for different positions of regulating devices and switches	No switch	N/A	
Et LIE	OFF position indicated by figure 0	The state of the same	N/A	
-4,	Greater output, input etc. indicated by higher figure	They are my my	N/A	
8.13	Marking not on screws or other easily removable parts	MILIER WALTER WALTER WALTER	P	
NUTER W	Marking clearly discernible (transformer ready for use)	LIET WIFE WHITE	nti P	
LIEK WAL	Marking for terminals clearly discernible if necessary after removal of the cover	No such terminal	N/A	
EK MLTEK	Marking for terminals: no confusion between input and output	No such terminal	N/A	
Liet	Marking for interchangeable protective devices positioned adjacent to the base	No such interchangeable protective devices	N/A	
NITEK MY	Marking for interchangeable protective devices clearly discernible after removal of cover and protective device	TEK ITEK NITEK MITEK	N/A	
8.14	Special information for installation (in the catalogue, data sheet, or instruction sheet) if necessary:	of the top start is	Р	
MULTER	For non-inherently short-circuit proof transformers with non-self-resetting or non replaceable devices (weak-point, thermal link): The device can not be reseted or replaced	WALTER WALTER WALTER WALT	N/A	

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y the site.	Result - Remark	Verdict
IEC 61558-2-16	at at let o	THE STIES WITH
Page 10 of 122	me me in a	

Clause	Requirement + Test	Result - Remark	Verdict
	The same of the sa	et let see	all out
	For transformers generating a protective earth conductor current of 10 mA (see also cl. 18.5.2): The installation shall be made according to the wirder and a second seco	WILL MILE MILES	N/A
<u></u>	ing rules.		J 3
ex murres	For associated- and IP00-transformers: At 10% over or under voltage in the supply voltage, the rated output of the transformer shall be selected accordingly.	THE WALTER WALTER WALTE	N/A
MITER	For stationary transformers exceeding 1000 VA: The short circuit voltage in % of the rated voltage	TER STEE WITER	N/A
UTER OU	For all transformers the electrical function: An information about the electrical function of the transformer (e.g. inherently short circuit proof safety isolating transformer)	TIER MUTER MUTER ON	of let
k lek	For associated- and IP00-transformers: The max. abnormal winding temperature	mit with with	N/A
"Ek	For tw-transformers: The specific constant S is (e.g. S6 says S = 6000)	MULTE MULTE WALL	N/A
une u	For transformers with more than one output winding, not for series or parallel connection	Intie White White	N/A
nit wit	an information in the in the instruction sheet: the transformer is not intended for series/parallel connection	THE WASHINGTON	N/A
WILLER CITER	For IP00-transformers the test of 27.2 is not performed. The result may be affected by the enclosure in the final application.	White was what	N/A
8.15	Marking durable and easily legible	me me me	Р

9	PROTECTION AGAINST ELECTRIC SHOCK		P
9.1	Protection against contact with hazardous live parts	IER STEEL WILLIAMS IN	Pur
9.1.1	A live part is not a hazardous live part if:	30 L St	F P
MIL	it is separated from the supply by double or re- inforced insulation	MILLE MALL MALL WALL	Р
MULL	the requirements of 9.1.1.1 and 9.1.1.2 are ful- filled	UNLIER WILLIER WILLIER WILLIE	JIP P
9.1.1.1	The touch voltage is ≤35 V(peak) a.c. or ≤ 60 Vd.c.	Measured maximum output voltage: Max. 54.34Vd.c.	Р
9.1.1.2	If the touch voltage is > 35 V (peak)a.c. or > 60 V d.c., the following requirements shall be fulfilled:	A STEE WILE MILTER AND	N/A
+ let	The touch current shall not exceed:	The state of	N/A
Me	for a.c. 0,7 mA (peak)	CLIEF WILL WALL WALL	N/A

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W

IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
West .	- for d.c. 2,0 mA (see Annex J)	THE WATER WATER	N/A
MUTIEK MI	In addition, when a capacitor is connected to live parts:	SITES MITES MILIES MILIE	MULTE.
9.1.1.2.1	discharge: < 45 C (between 60 V and 15 kV)	a at at at	N/A
9.1.1.2.2	energy: < 350 mJ (voltage >15 kV)	ter with with mi	N/A
9.1.2	Transformers shall have an adequate protection against accessibility to hazardous live parts:	* MITEL MITEL WAITER W	PU
WALTER V	The enclosure of class I and class II transformers gives an adequate protection against accentual contact with hazardous live parts.	MATER MATER MATER WAT	Pek
niteit wh	Class I transformers: accessible parts are separated from hazardous live parts by at least basic insulation.	LIET WHITE WHITE	N/A
t airest	Class II transformers: no accessibility to basic insulation, or conductive parts separated from hazardous live parts by basic insulation.	et let let	P
This.	Hazardous live parts are not accessible after removal of detachable parts.	Mary Mary Mary Mary	N/A
712 TI	Hazardous live parts are not accessible after removal of detachable parts except for:	No lamp or fuse holder	N/A
in Mer	lamps having caps larger B9 and E10	ARE MALTE MALTE	N/A
et let	type D fuse holder		N/A
	Lacquers, enamel, paper, cotton, oxide film on metal parts not used for protection against accidental contact with hazardous live parts:	Such substance not used	N/A
Tet .	Shafts, handles, operating levers, knops are not hazardous life parts.	No such parts	N/A
	Compliance is checked by inspection and by relevant tests according to IEC 60 529	HEL MULT MULT MULT	Р
	Class II transformers and Class II parts of Class I construction are tested with the test pin (fig. 3)	iee while while while	ul Pil
WALTE	Hazardous live parts shall not be touchable by test finger (fig. 2)	Whitek Muries Muries on	Р
WALTER W	for Class II transformers: metal parts separated by basic insulation from hazardous live parts not touchable by test finger	UNITER WALTER WALTER WALT	P
	hazardous live parts shall not be touchable with the test pin	LIFE WALTE WALTE WALL	P
9.1.3	Accessibility of non hazardous live parts	it it it will nite.	ni Pri
Whitek.	Non hazardous live parts of the output circuit may be accessible if they are isolated from the input cir- cuit by double or reinforced insulation and if the fol- lowing conditions are fulfilled:	MULTER MULTER MULTER MU	TE WALTER

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Reference	e No.: WTX22X08157378S Page 12 of 122		
TEN MIT	IEC 61558-2-16	er fer jer sie	WILL WILL
Clause	Requirement + Test	Result - Remark	Verdict
	The same sale sale sale sale	- 15 15 5°	LIE BUT
NULTER IN	 The no load output voltage is ≤ 35 V peak a.c. or ≤ 60 V ripple free d.c., both poles are accessible 	TER TER WILER	P INTER
TITEH WAY	 The no load output voltage is > 35 V peak a.c. or > 60 V ripple free d.c. and ≤ 250 V a.c., only one pole may be accessible 	TEX WHITEK WHITEK WHI	N/A
9.2	Transformers with primary supply plug: 1 s after the interruption of the supply the voltage between the pins do not exceed 35 V (peak) a.c. or 60 V ripple free d.c.	t whitek whitek whitek	WILL STEEL
MITEN W	Transformers without a primary supply plug: 5 s after the interruption of the supply the voltage between the input terminals do not exceed 35 V (peak) a.c. or 60 V ripple free d.c.	and whilet whilet wh	N/A
ITEH OUT	The following tests are required :	et let let lit	N/A
y The	If the nominal capacitance is ≤ 0,1 μF – no test is conducted.	No such capacitor	P
ON LIEK	 10 times switch the supply source on and off, or use a special equipment for to switch off at the most unfavourable electrical angle 	The stat will	N/A
LIEK N	If the measured voltage is > 60 V ripple free d.c., the discharge must be \leq 45 μ C.	The state of the s	N/A

10	CHANGE OF INPUT VOLTAGE SETTING	The life of	P
k TEK	Voltage setting not possible to change without a tool	THE THE TEN	N/A
m.	Different rated supply voltages:	while me me me	N/A
NATIER WA	indication of voltage for which the transformer is set, is discernible on the transformer.	NITER NUTER NUTER WILLER	N/A
10.101	A wide range of the input (100 V a. c, to 240 V a.c voltage is allowed (IEC 61558-2-16:09):	SEX SLIEK WITER WITER WI	TELP MAI
EK INLTEK	if the output voltages does not exceed the rated output voltage	- Tet Itet stift wit	P
TEX	if the no-load voltage does not exceed the limits of output voltage deviation	it let tex item	P

11	OUTPUT VOLTAGE AND OUTPUT CURRENT UNDER LOAD	THE THE TEN
11.1	Difference from rated value (without rectifier; with rectifier):	P
y Mitë	a) inherently short-circuit proof transformers with one rated output voltage for output voltage: a.c. 10%; d.c. 15%	N/A

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	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
WALLEY W	b) inherently short-circuit proof transformers with one more than 1 rated output voltage for highest output voltage: a.c. 10%; d.c. 15%	White white white	N/A		
TEK WI	c) idem for other output voltages: a.c. 15%; d.c. 20%	et tet tet ste	N/A		
et de	d) other transformers for output voltages: a.c. 5%; d.c. 10%	See appended table	Р		

12	NO-LOAD OUTPUT VOLTAGE (see supplementar	y requirements in Part 2)	Р
	Remark: with rectifier measuring on both sides of the rectifier	MILL AND AND AND AND	N/A
12.101	The no load output voltage shall not exceed (IEC 61558-2-16:09):	STE WILL WAS AND	Р
it with	 For SMPS incorporating separating or auto- transformers: 1000V a.c. or 1415 V ripple free d.c. 	THE THE THE THE	N/A
70°	For SMPS including isolating transformers: 500 V a.c. or 708 V ripple-free d.c.	THE THE THE THE	N/A
71/2 1	 For SMPS including safety isolating transformers: 50 V a.c. or 120 V ripple-free d.c. 	Inite white white white	Р
NEEL VILLE	For independent transformers , this output voltage limitation applies even when output windings, not for interconnection, are connected in series	The suntil sunti	N/A
12.202	The difference between output voltage at no load and the output voltage measured in clause 11 does not exceed the values of table 101 (IEC 61558-2-16:2009), Rated output (VA) Rated value %	JUNE WALTER WALTER WALTER	Р

13	SHORT-CIRCUIT VOLTAGE	N/A
	Difference from marking for short-circuit voltage 20%	N/A

14	HEATING		P
14.1	General requirements	write write mil with	₩ P
TEX	No excessive temperature in normal use	at the left	Р
ist is	Room temperature: rated ambient temperature ta±5 °C	Lit will my my	
, m	Type X, Y, Z attachments: 1 pull (5 N/A) to the connection windings	MULL MULL MULL MU	N/A
MILL	Upri (V): 1,1 times rated supply voltage loaded with rated impedance – for independent transformers	264V	WELL.

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W

IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
WALLER ON	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	NIFE WALTER WALTER WAS	set milet.
ITER WAL	Type X, Y, Z attachments: 1 pull (5 N/A) to the connection windings	TEX MILIER MILIER WALTE	N/A
It ITES	Max. temperature windings:	(see appended table)	P
10	- Class A: 100 °C	MULL MULL MAN.	N/A
CLIER	− Class E: 115 °C	let the the	N/A
22.	- Class B: 120 °C	me me me	Р
ALTE WA	− Class F: 140 °C	TEX TEX STEX OUT	N/A
AL I	− Class H: 165 °C	- m m	N/A
The same	- other classes	ed aliet alies unite	N/A
k Mrliek	Temperature of external enclosures of stationary transformers:	- Tek sitek sitek	N/A
*	− metal: 70 °C	24, 24, 2,	N/A
arci. 1	– other material: 80 °C	ALTER ONLIER MALTER MA	N/A
NITEH WIN	Temperature of external enclosure of stationary transformer 85 °C (not touchable with the IEC test finger)	THE WILLS	N/A
EK WITE	Temperature of external enclosures, handles, etc. of portable transformers:	MILL WILLY WILLER	uni Pri
TEX	 continuously held parts of metal: 55 °C 	at at let	N/A
ZEX.	 continuously held parts of other material: 75 °C 	mury mer mer on	N/A
n. "11	 not continuously held parts of metal: 60 °C 	NITE WALL WALL VIA	N/A
IFEK WAL	 not continuously held parts of other material: 80 °C 	EX MITEX WATER	- TEXP
Miliek	Temperature of terminals for external conductors 70 °C	TER STER MITER	N/A
24	Temperature of terminals of switches 70 °C	211, 211	N/A
anch a	Temperature of internal and external wiring:	(see appended table)	III P
alt .	- rubber: 65 °C		N/A
ir in	– PVC: 70 °C	ite mit mi mi	7 P 7
CER STE	Temperature of parts where safety can be affected:	a st set set	N/A
7/1,	– rubber: 75 °C	MUTT MUT MUT	N/A
CLIER	– phenol-formaldehyde: 105 °C	THE THE THE	N/A
10,	urea-formaldehyde: 85 °C	me me me	N/A

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et de	IEC 61558-2-16	1 A St St	10 3
<u> </u>		The time the sun of	1
Clause	Requirement + Test	Result - Remark	Verdict
The same	 impregnated paper and fabric: 85 °C 	WELL MULT MILL MILL	N/A
INLIEE NI	− impregnated wood: 85 °C	THE STATE STATES	N/A
ciek ali	 PVC, polystyrene and similar thermoplastic material: 65 °C 	at at the take	N/A
	- varnished cambric: 75 °C	in the same of	N/A
NITE	Temperature rise of supports 85 °C	t of the of the south of the	Р
LIEK	Temperature of printed boards:	UL approved PCB used, the limit is 130 °C	P
20, 1	 bonded with phenol-formaldehyde: 105 °C 	mr. mr. m. m.	N/A
OLIER NA	– melamine-formaldehyde: 105 °C	THE THE STREET STREET	N/A
	− phenol-furfural: 105 °C	2 M M	N/A
in anti-	– polyester: 105 °C	EX STEX WILL WILL MILE	N/A
t Let	− bonded with epoxy: 140 °C	PCB rating: 130°C	- P
ALE.	Electric strength between input and output windings (18.3, 1 min); test voltage (V)	Test Voltage: 3000Vac 1min	√P
14.101	Winding temperature measured by thermocouples at the surface of the winding(IEC 61558-2-16:09)	UNLIER WHITE WHITE WHITE	un'P
LITER TOLL	if the internal frequencies is > 1kHz	OF OF STEEL MITTER	√ P
ek alte	 the values of Table 1 for windings temperatures are reduced by 10°C 		P
14.2	Application of 14.1 or 14.3 according to the insulation system	must must must me	P
14.2.1	Class of isolating system (classified materials according to IEC 60 085 and IEC 60 216)	Class B	WP W
14.2.2	No classified material, or system but the measured temperature does not exceed the value of Class A	REFER WRITER WRITER WHILE	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	TER STEEL WILLE AND	N/A
14.3	Accelerated ageing test for undeclared class of isolating system	fet fet fet stet still	N/A
10 1	Cycling test (10 cycles):	me me me	N/A
LIER JA	measuring of the no-load input current (mA)	THE THE LITTER STEEL	N/A
14.3.1	heat run (temperature in table 2)	, m. m. m.	N/A
14.3.2	 vibration test: 30 min; amplitude 0,35 mm; frequency range: 10 Hz, 55 Hz, 10 Hz 	White white white w	N/A
14.3.3	- moisture treatment (48 h, 17.2)	at at at s	N/A

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	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdict
14.3.4	Measurements and tests at the beginning and after each test:	White white white	N/A
m, m	 deviation of the no-load input current, measured at the beginning of the test is 30% 	ALTER WALTER WHILE W	N/A
in we	- insulation resistance acc. cl.18.1 and 18.2	TER STIER WITE WIL	N/A
EK WITE	 electric strength, no breakdown (18.3); 2 min; test voltage 35% of specified value (table VI) 	t light light mile	N/A
WINLTER V	- 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	MALTER MALTER MALTER	N/A

15	SHORT-CIRCUIT AND OVERLOAD PROTECTION	Et TET TET STEET	Р
15.1	General	14. 14. 14. 14.	Р
MULL	Tests direct after 14.1 at the same ta and without changing position.	(see appended table)	Р
MALTER.	Supply voltage between 0,9 times and 1,1 times of the rated supply voltage	1.1 times and 0.9 times had been considered	W/VITE
LIEK	Transformer with rectifier tests of 15.2 and 15.3 at the input and the output terminals of the rectifier.	THE MILITER WHITEH W	LIE'P
et whi	Transformers with more than one output winding or tapping, all windings tested with normal load, the winding with the highest temperature is short circuited.	Only one output winding	N/A
m	Winding protected inherently (15.2)	THE WALL WALL WALL	N/A
NLTEK V	 Max. temperature of winding protected inherently (insulation class): 150 °C (A); 165 °C (E); 175 °C (B); 190 °C (F); 210 °C (H) 	LIFER WALTER WALTER WALTER	N/A
ie ar	Winding protected by protective device:	the the state with a	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 4 (a) (insulation class): 200 °C (A); 215 °C; (E); 225 °C (B); 240 °C (F); 260 °C (H) 	whitek whitek whitek whi	N/A
TLER W	 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
WALTE	 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) 	AND THE MUTER MUTER WATER	P

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The state of	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
MUTTER AL	 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) 	White white white white	P	
LIE' MILI	Max. temperature of external enclosures (accessible by test finger) 105 °C	TEX WHITEK WHITEK W	P	
EX WILLER	Max. temperature of insulation of wiring (rubber and PVC) 85°C	MALTER WALTER WALTER WALT	Pul	
CIEN	Temperature rise of supports 105 °C	A St. St. St.	P	
15.2	For inherently short-circuit proof transformers and for transformers with rectifiers test by short circuit of the output winding at rated supply voltage x 1,1: temperature rises values in table 3	MUNITER MULTER MULTER	N/A	
15.3	For non-inherently short-circuit proof transformers and for transformers with rectifiers: temperature rises values in table 3	See appended table	Р	
15.3.1	Output terminals short-circuited: protection device operates, test at 0,9 1,1 of the rated supply voltage	WHITE WHITE WHILE WHILE	NP TEL	
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 4.	nette met met met	N/A	
15.3.3	If protected by a fuse accordance with either IEC 60 127 or ISO 8820, or a technical equivalent fuse, the transformer is loaded with the current as specified for the longest pre arcing time. If protected by a miniature fuses in accordance to IEC 60127, 1,5 times of the rated fuse, until steady state condition (in addition)	White white white white white white	N/A	
15.3.4	If protected by a circuit-breaker according to IEC 60 898 the transformer is loaded with a current equal to 1,45 times the value of the circuit-breaker rated current	itek mitek mitek mitek on	N/A	
15.3.5	If other overload protection than a fuse (IEC 60 127) or a circuit-breaker (IEC 60 898) test with 0,95 times of operating current	Protected by electronic circuit	P. P. L.	
WILEX WA	If an internal week point is used, the test must be repeated with two new samples. The two additional samples works similar to the first sample. Temperatures in the limit of table 3	UNLIER WHITE WHITE WHITE	N/A	
15.4	For non-short-circuit proof transformers: temperature rises values in table 3, tests as indicated in 15.3	ANTER WHITE WATER WA	N/A	
15.5	For fail-safe transformers:	let the the site	N/A	
- 67, -			C3 V	

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
, Clin	the the the the the	A B St.	The John	
72,	Upri (V): 1,1 times rated supply voltage:	mer mer m. m.		
CLIER	- Isec (A): 1,5 times rated output current:	THE THE THE MAN	ET JULIE	
9 9	- time until steady-state conditions t1 (h):	in my my	, -	
iter gri	- time until failure t2 (h): t1; 5 h	LEK TEK STEE STEE	11.11 - 11.	
15.5.2	During the test:	14. 24. 2.	N/A	
MULT	- no flames, molten material, etc.	t stek stek skie s	N/A	
	- temperature of enclosure 175 °C	111 111	N/A	
MILE !	 temperature of plywood support 125 °C 	WITE WITE WALL ON	N/A	
Let.	After the test:	s & A A	N/A	
ret 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.	Et White Whitek	N/A	
UEL	bare hazardous live parts not accessible by test finger through holes of enclosure	of the the	N/A	
15.101	Electronic circuits of the SMPS fulfils the requirements of Annex H of part 1 . After a fault: no electric shock, no fire hazard and no unintentional operation.	(Details see Annex H)	W CTEL W	

16	MECHANICAL STRENGTH		Р
16.1	General	TEX STER STER WITE	Р
	After tests of 16.2, 16.3 and 16.4	me me me	Р
Willer o	- no damage	TEX LIEX NITER MITE	P
TIEK W	 hazardous live parts not accessible by test pin according to 9.2 	et let jet seet o	ITEKP NA
	no damage for insulating barriers	me in in	Р
anerie	 handles, levers, etc. have not moved on shafts 	- JEK LIFEK MITER MIT	N/A
16.2	Transformers (stationary and portable s. 16.1)	Mr. Mr. Mr.	N/A
WILL	For stationary and portable transformers: 3 blows, impact energy 0,5 Nm	WILLER WALTER WALTER WHELE	N/A
16.3	Portable transformers (except of plug in transformers)	LIET WAITER WALTER WALTER	NIT'P W
CEP LO	For portable transformers: 100 falls, 25 mm	a state of the	P
16.4	Transformers with integrated pins (plug in transformers), the following tests are carried out:	me me me m	N/A
AL.	a) plug-in transformers: tumbling barrel test: 50 x 250 g; 25 x 250 g	MULTE MULT MULL WALL	N/A

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Reference	e No W 1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	122	
TER WITE	IEC 61558-2	2-16	MITE WILL
Clause	Requirement + Test	Result - Remark	Verdict
MULLI	b) torque test of the plug pins with 0,4 Nm	WHITE WHITE WATER WATER	N/A
THE .	c) pull force according to table 5 for each pi	n + A At Att	N/A

17	PROTECTION AGAINST HARMFUL INGRESS OF	WATER AND MOISTURE	P.
17.1	Degree of protection (IP code marked on the transformer)	IPX0	Р
TEX.	Test according to 17.1.1 and for other IP ratings test according to IEC 60 529:	Who who we are	P
'Ny.	 stable operating temperature before starting the test for < IPX8 	MULTI MULT MULT ME	N/A
ν _Γ , 21,	transformer mounted and wired as in normal use	LIER WHITE WHITE WHITE	N/A
ie whi	 fixed transformer mounted as in normal use by the tests according to 17.1.1 A to L 	EX WHITE WHITE WHITE	N/A
MULTER	portable transformers placed in the most unfavourable position and wired as in normal use	MUTEL WHITEL WHITEL WH	N/A
MALTER	 glands tightened with a torque equal to two- thirds of 25.6 	SLIER SLIER SPLIER SWILE	N/A
, et	After the tests:		N/A
in an	dielectric strength test according to 18.3	White white	N/A
et .1	Inspection:	the set	N/A
- 'EX	a) in dust-proof transformers no deposit of talcum powder	Must mer mer m	N/A
Mer	b) no deposit of talcum powder inside dust-tight transformers	WHITE WHITE WALL WHO	N/A
inite w	c) no trace of water on live parts except SELV parts below 15 V ac or 25 V dc or insulation if hazard for the user or surroundings no reduction of creepage distances	LIFE WHITE WHITE WHITE	N/A
K NITE	d) no accumulation of water in transformers IPX1 so as to impair safety	- Alt The Lift of	N/A
Tex	e) no trace of water entered in any part of water- tight transformer	AND AND AND AND	N/A
un.	f) no entry into the transformer by the relevant test probe	mere was with war	N/A
17.1.1	Tests on transformers with enclosure:	LIER WILL WHILL WALL	J P
Elt S	A) Solid-object-proof transformers:	, the state	P
- CH	- 2 IP2X test finger (IEC 60 529) and test pin (fig. 3)	MULL AND MULL AND A	Р
Mer	B) Solid-object-proof transformers:	NUTER WILL WALLE WAL	N/A
J.	- wire 2,5 mm; force 3 N/A	70, 2	N/A

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TER OUTE	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
No. Co.	- IP4X, wire 1 mm; force 1 N/A	antiex water water	N/A	
NALTEK W	C) Dust-proof transformers, IP5X; dust chamber according to IEC 60 529, fig. 2:	NITER WILLER W	N/A	
18t . S	a) transformer has operating temperature	a at at a	N/A	
it lit	b) transformer, still operating, is placed in the dust chamber	it was well and	N/A	
Par.	c) the door of the dust chamber is closed	Mile White whi	N/A	
C.E.F.	d) fan/blower is switched on	1 1 1	N/A	
"The "	e) after 1 min transformer is switched off for cooling time of 3 h	MULTE MULT MULT	N/A	
1 2n	A) Dust-tight transformers (IP6X) test according to C)	LIE WILLE WILL MY	N/A	
Will	B) Drip-proof transformers (IPX1) test according to fig. 3 of IEC 60 529 for 10 min	EX WHITE ANTIER WHITE	N/A	
MULLER	C) Rain-proof transformers (IPX2) test according to fig. 3 of IEC 60 529 for 10 min in operation, any angle up to 15°	MALIER WALTER MALIER	N/A	
ant. A	D) Spray proofed transformers (IPX3) test according to fig. 4 of IEC 60 529 for 10 min in operation and 10 min switched off, time for complete oscillation (2 x 120°) is 4 sec.	JULIER WALTER WALTER WAL	N/A	
ek walte Tek	E) Splash-proof transformers (IPX4) test according to fig. 4 of IEC 60 529 (see F) for 10 min in operation and 10 min switched off (the tube shall oscillate ≈360)	White white	N/A	
Aller .	F) Jet-proof transformer (IPX5) test according to fig. 6 of IEC 60 529 (nozzle 6,3mm)	White white whi	N/A	
write an	G) Powerful Jet-proof transformer (IPX6) test according to fig. 6 of IEC 60 529 (nozzle 12 mm)	LIFEK WALTER WALTER OF	N/A	
TER SOLI	H) Watertight transformers (IPX7)	the the title all	N/A	
4	Pressure watertight transformers (IPX8)	The say say	N/A	
17.2	After moisture test (48 h for IP20, 168 h for other transformers):	WALTER WALTER WALTER	, P	
WALTER	insulation resistance and electric strength (Cl. 18)	BLIEF WHIEK WHIEK	ALTE MAP	

18	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
18.2	Insulation resistance between:	at the the the	P
t Tex	live parts and body for basic insulation 2 M	Mar An An An	P
"EX	live parts and body for reinforced insulation 7 M	white mit with the	N/A

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			1	1
4				
	V	V	1	
ı	Α,	V		

IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
MULTER	input circuits and output circuits for basic insulation 2 M	while white	N/A
mir m	input circuits and output circuits for double or reinforced insulation 5 M	MILE MULLE M	Р
ing Alve	each input circuit and all other input circuits connected together 2 M	TEK WALTER WALTER WAL	N/A
White	 each output circuit and all other output circuits connected together 2 M 	t while while while	N/A
WALTER	 hazardous live parts and metal parts with basic insulation (Class II transformers) 	UNITER WALTER WHITER	N/A
NITEK WY	 body and metal parts with basic insulation (Class II transformers) 5 M 	LIET ALTER MATER ON	N/A
TEK WITE	metal foil in contact with inner and outer surfaces of enclosures 7 M	et the life of	N/A
18.3	Electric strength test (1 min): no flashover or breakdown:	Mr. Mr. Mr. Mr.	P
	basic insulation between input circuits and output circuits; working voltage (V); test voltage (V)	whi with white	N/A
LIEK WAT	double or reinforced insulation between input circuits and output circuits; working voltage (V); test voltage (V)	(see table 18.3)	JEK W LIE P
ek Jie	3) basic or supplementary insulation between:		P
- 1EX	a) live parts of different polarity; working voltage (V); test voltage (V)	(see table 18.3)	P
w.	b) live parts and the body if intended to be connected to protective earth	(see table 18.3)	NI NI P
initia un	c) inlet bushings and cord guards and an- chorages:	NITER MUTTER MUTTER M	N/A
TER WILL	d) live parts and an intermediate conductive part	(see table 18.3)	Pin
A LIEN	e) intermediate conductive parts and body:	- 11 11 5th	N/A
JW TEX	4) Reinforced insulation between the body and live parts; working voltage (V); test voltage (V):	(see table 18.3)	P
VILLER IV	5) Functional insulation for windings intended to be connected in series or parallel (test voltage = working voltage + 500 V) (IEC 61558-2-16:09)	MILE MILE MILE	N/A
18.4	Does not apply (IEC 61558-2-16:09)	is my my my	Р
18.101	Impulse test according Table F5 of IEC 60664-1 with 1,2/50 µs (IEC 61558-2-16)	of Mariet Mariet War	Par Par
WALTER.	After the test of 18.3, 10 impulses of each polarity between input and output terminals	ALIER WATER MALIER	WALTE VILLE

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	IEC 61558-2-16				
Clause	Clause Requirement + Test Result - Remark				
WUTEX W	During the tests no breakdown of the insulation between turns of a winding, between input and output circuits, or between windings and any conductive core	NIET WATER WATER	P		
18.5	Touch current and protective earth current	THE THE LIER STIER	P		
18.5.1	Touch current	and the second	Р		
	Touch current measured after the clause 14 test (hot) for class I and class II transformers (class II transformers with metal foil at the plastic surface). The test circuit according figure 8. Measuring network according Figure J1 (Annex J). If the frequency is >30kHz, measuring across the 500 Ohm resistor of J1 (burn effects).		PL PL		
TEK MILT	Measurement of the touch current with switch p of picture 8 in both positions and in combination with switches e and n. The measured values are less than the required values of table 8b.	Limit: 0.5mA rms	N TEX P		
WINLTER V	switches n and e in on position	L, N to output terminals: 0.125mA rms Max. L, N to enclosure: 0.039mA rms max.	P		
ek viritê	- switch n: off and switch e: on	L, N to output terminals: 0.052mA rms Max. L, N to enclosure: 0.023mA rms max.	P		
Whitek	switch n: on and switch e: off	L, N to output terminals: 0.109mA rms Max. L, N to enclosure: 0.037mA rms max.	P		
18.5.2	Protective earth conductor current		N/A		
EX MUTLER	The transformer is connected as in clause 14 Impedance of the ammeter < 0,5 Ohm, connected between earth terminal of the transformer and protective earth conductor	MULTER WHITE WHITE	N/A		
WALTER	The measured values are less than the required values of table 8b.	THE MITER MILIER WHITE	N/A		
Jet .	TEX WITE WHITE WHITE WAS AND AND	a at at at	STEP S		
19	CONSTRUCTION	rice must must must	P		
19.1	Separation of input and output circuits		P		

19	CONSTRUCTION	Р
19.1	Separation of input and output circuits	P
19.1.1	SMPS incorporating auto-transformers (IEC 61558-2-16:2009)	N/A

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	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
19.1.1.1	For plug connected auto-transformers with rated input voltage > rated output voltage the potential to earth shall not exceed the rated output voltage. (IEC 61558-2-16:2009)	White White White	N/A		
19.1.1.2	SMPS with 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. (IEC 61558-2-16:2009)	TEX WALTER WALTER WALTE	N/A		
19.1.1.3	A polarity detecting device only energises the output in the case: output potential to earth ≤ rated output voltage, also with reversed input plug. (IEC 61558-2-16:2009)	MALTER MALTER MALTER	N/A		
h. 26	 The contact separation of the device is ≥ 3mm 	in min min in	N/A		
TER OLIF	A current to earth does not exceed 0,75 mA.	et tet tet at	N/A		
	 All tests are repeated under fault conditions of H.2.3 of annex H of part 1. The potential to earth does not exceed the max output voltage for more than 5 s. 	Whitek whitek whitek	N/A		
19.1.2	SMPS incorporating separating transformers (IEC 61558-2-16:09)	JULIER WALTER WALTER	N/A		
19.1.2.1	Input and output circuits electrically separated. (IEC 61558-2-16:09)	Et United wi	N/A		
19.1.2.2	The insulation between input and output winding(s) consist of basic insulation (IEC 61558-2-16:09)	Life milit mil	N/A		
- 24	Class I SMPS	20 70 1	N/A		
Mur.	Insulation between input windings and body consist of basic insulation	white mile mil	N/A		
until un	Insulation between output windings and body consist of basic insulation	NIFER WHITER WHITER O	N/A		
ITER INLI	Class II SMPS (IEC 61558-2-16:2009)	at act set s	N/A		
et Jest	Insulation between input windings and body consist of double or reinforced insulation	y with any and	N/A		
- 101 - 101	Insulation between output windings and body consist of double or reinforced insulation	Murit Aur Aus	N/A		
19.1.2.3	The insulation between input windings and intermediate conductive parts and the output windings and intermediate part consist of basic insulation (IEC 61558-2-16:09)	UNLIE WILL WILLEY	N/A		
TEX WITE	For class I SMPS the insulation between input and output windings via the intermediate conductive parts consist of basic insulation (IEC 61558-2-16:2009)	A MUTEL MUTEL MUTE	N/A		

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ar.	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
WINTER WI	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. (IEC 61558-2-16:2009)	NUTER WALTER WALTER	N/A	
19.1.2.4	Parts of output circuits may be connected to protective earth (IEC 61558-2-16:09)	ic mir mir m	N/A	
19.1.2.5	No direct contact between output circuits and the body, unless: (IEC 61558-2-16:2009)	White White white	N/A	
WILLE V	Allowed for associated transformers by the equipment standard	UNLIEK WALTER WALTER	N/A	
STEEL W	Clause 19.8 of part 1 is fulfilled	LEK TEK TEK	N/A	
19.1.3	SMPS incorporating isolating transformers and safety isolating transformers (IEC 61558-2-16:09)	at the text of	P	
19.1.3.1	Input and output circuits electrically separated (IEC 61558-2-16:09)	muri mer me	Р	
AL.	No possibility of any connection between these circuits	WHITE WHITE WHITE	W VP	
19.1.3.2	The insulation between input and output winding(s) consist of double or reinforced insulation (exception see 19.1.3.4) (IEC 61558-2-16:09)	UNLIES WHITE WHITE V	nit miP	
74 - 16,	Class I SMPS not intended for connection to the mains by a plug:	a Surry and	4 J	
WAL	Insulation between input windings and body connected to earth consist of basic insulation rated to the input voltage	MULTE WILL WILL	N/A	
INITEK IN	 Insulation between output windings and body, connected to earth consist of basic insulation rated for the output voltage 	MILL WILL WITH	N/A	
JEK MI	Class I SMPS intended for connection to the mains by a plug (EN 61558-2-16:09):	et set set s	TEX DITEXP	
X WILTER	Insulation between input windings and body connected to earth consist of basic insulation rated to the working voltage	THE WIFE WILLE	runif k	
WALTEX	 Insulation between output windings and body, connected to earth consist of supplementary insulation rated for the working voltage 	MITER WALTER WALTER	MILIER WILLER	
UER O	Class II SMPS (IEC 61558-2-16:2009)	at at all	JEL JEP	
TEK MALTE	Insulation between input windings and body consist of double or reinforced insulation rated to the input voltage	A STEE STEEL WILL	P P	
WALTER	Insulation between output windings and body consist of double or reinforced insulation, rated to the output voltage	THE MITEL MATER	WALTE WALTE	

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	IEC 61558-2-16					
Clause	Requirement + Test	Result - Remark	Verdict			
19.1.3.3	SMPS with intermediate conductive parts not connected to the body (between input/output) (EN 61558-2-16:09):	while while white	N/A			
19.1.3.3.1	For class I and class II SMPS the insulation between input and output windings, via intermediate conductive parts, consist of double or reinforced insulation, rated to the working voltage (EN 61558-2-16:09).	TEK WALTER WALTER WAS	N/A			
MUTER M	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. (rated to the input voltage, for SELV circuits only basic insulation to the body)	JUNE WHITEK WHITEK	N/A			
LEK WALTER	 For transformers, different from independent, the insulation between input and output wind- ings, via intermediate conductive parts, consist of double or reinforced insulation, rated to the working voltage. 	EX WHITEX WHITEX WHITES	N/A			
19.1.3.3.2	Class I transformers with earthed core, and not allowed for class II equipment (EN 61558-2-16:09)	TEX TEX STEX	N/A			
Clest VI	Insulation from the input to the earthed core: basic insulation rated for the input voltage	and an and test	N/A			
ek whilek	Insulation from the output voltage to the earthed core: basic insulation rated for the output voltage	The state of the	N/A			
19.1.3.3.3	Insulation between : input to intermediate conductive parts and output and intermediate parts consist of at least basic insulation (EN 61558-2-16:09)	Whitek Whitek Whitek	N/A			
initest vini	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.	NIET WITE WHIEL W	N/A			
19.1.3.4	For class I SMPS, with protective screen, not connected to the mains by a plug the following conditions comply (EN 61558-2-16:09):	the wall was	N/A			
MUTIEK M	The insulation between input winding and protective screen consist of basic insulation (rated input voltage)	MITER MATER WALTER	N/A			
LIFEK WALT	The insulation between output winding and protective screen consist of basic insulation (rated output voltage)	LITER WHITEK WHITEK W	N/A			
ER WILLE	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	AND THE MALTER MALE	N/A			

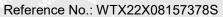
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	IEC 61558-2-16	the the tile will a	We also
Clause	Requirement + Test	Result - Remark	Verdic
untifek un	Where the protective screen does not cover the entire width of the input winding, additional insulation to ensure double insulation in this area, is used.	NIET WHITE WHITE WHITE	N/A
LIER WILL	If the screen is made by a foil, the turns are isolated, overlap at least 3 mm	TEX WALTER WALTER WALTER	N/A
EK WILTER	The cross-section of the screen and the lead out wire is at least corresponding to the rated current of the overload device	MALIER WALTER WALTER ON	N/A
WALTE	The lead our wire is soldered or fixed to the protective screen.	WALTER WALTER WALTER WALT	N/A
Inlies and	Protective screening is not allowed for SMPS with plug connection to the mains (EN 61558-2-16:09)	Lifet on the mutter out the	N/A
19.1.3.5	No connection between output circuit and protective earth, except of associated transformers (allowed by equipment standard) or 19.8 is fulfilled (EN 61558-2-16:09).	et unifet unifet unifet	N/A
19.1.3.6	No connection between output circuit and body, except of associated transformers (allowed by equipment standard) (EN 61558-2-16:09)	TEX TEX STEX WITH	N/A
19.1.3.7	The distance between input and output terminals for the connection of external wiring is 25 mm	The The	N/A
19.1.3.8	Portable SMPS having an rated output ≤ 630 VA (EN 61558-2-16:09)	Fixed SMPS	Р
19.1.3.9	No connection between input and output circuit, except of associated transformers (allowed by equipment standard) (EN 61558-2-16:09)	No connection	P
19.1.3.10	Protective screening is not allowed for SMPS with plug connection to the mains (EN 61558-2-16:09)	A 1st Let St	N/A
19.2	Fiercely burning material not used	Such substance not used	Р
TEK WILTE	Unimpregnated cotton, silk, paper and fibrous material not used as insulation	LEK WILLER WALLER	P
IN THE	Wax-impregnated, etc. not used	at at let	P
19.3	Portable transformer: short-circuit proof or fail-safe	Short-circuit proof	Р
19.4	Class II transformers: contact between accessible metal parts and conduits or metal sheaths of supply wiring impossible	united whited whited whit	N/A
19.5	Class II transformers: part of supplementary or re- inforced insulation, during reassembly after routine servicing not omitted	LIER WILLER WHITE WHITE	P
19.6	Class I and II transformers: creepage distances and clearances over supplementary or reinforced insulation if wire, screw, nut, etc. become loose or fall out of position not 50% specified values (Cl. 26)	JUNITED WALTER WALTER	P P

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic
19.7	Conductive parts connected to accessible metal parts by resistors or capacitors shall be separated from hazardous live parts by double or reinforced insulation	NITER WATER WATER WATER	N/A
19.8	Resistors or capacitors connected between haz- ardous live parts and the body (accessible metal parts) consist of:	TER WATER WATER WATER	Pur
AL.	components according to IEC 60 065, 14.1 or capacitor Y1 according to IEC 60 384-14	MUTTER MUTTER MUTTER MU	Р
MILLE	at least two separate components	TEX SITES SUITES SINIT	N/A
SLIEK IN	if one component is short-circuited or opened, values specified in Cl. 9 shall not be exceeded	and the state state	N/A
See all	 if the working voltage is ≤ 250 V, one Y1 capacitor according 60384-14 is allowed 	Certified Y-capacitor according to IEC 60384-14	Р
19.9	Insulation material input/output and supplementary insulation of rubber resistant to ageing	mi me m o	N/A
	Creepage distances (if cracks) specified values (Cl. 26)	white white will and	N/A
19.10	Protection against accidental contact by insulating coating:	Intitle Multiply Multiply Multiply	N/A
TILE MUL	a) ageing test (section I, IEC 60 068-2-2), test Ba: 168 h; 70 C	THE WHITE WHITE	N/A
ek walte	b) impact test (spring-operated impact hammer according to IEC 60 068-2-63; 0,5 ± 0,05 J)	MALIE WILLIE WILLIEF W	N/A
	c) scratch test (hardened steel pin) electric strength test according to Cl. 18	SLIEK SLIEK MILIEK MILI	N/A
19.11	Handles, levers, knobs, etc.:	Su a r	N/A
ine an	insulating material	LITER WALTER WALTER WALL	N/A
at s	 supplementary insulation covering 	and the state of	N/A
* "£	separated from shafts or fixing by supplementary insulation	the milit milit milit	N/A
19.12	Windings construction	THE WALTER WALTER WALTER	Р
19.12.1	Undue displacement in all types of transformers not allowed:	Tet Tet Tret milit	# P.Y
74	 of input or output windings or turns thereof 	m m m	P
ALLE MA	of internal wiring or wires for external connection	LIER WHITER WHITE WALLE	The P
IER WALTE	of parts of windings or of internal wiring in case of rupture or loosening	WATER WATER WATER OF	Р
19.12.2	Serrated tape:	at all the	N/A
24 201	distance through insulation according to ta- ble 13	Mary Mur Mur M	N/A

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	5	Y	V		١
		-	V	•	7
	*		1		

IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic
Angery .	one additional layer of serrated tape, and	JALIER WATER WATER	N/A
Set.	one additional layer without serration	A ST SET	N/A
itek mri	in case of cheekless bobbins the end turns of each layer shall be prevented from being displaced	ALTE WITH MITEL MA	N/A
9.12.3 A1)	Insulated windings wires providing basic, supplementary or reinforced insulation, meet the following requirements:	t united united unite	yniz # Piz
WALTER	Multi-layer extruded or spirally wrapped insulation, passed the tests of annex K	INLIER WALTER WALTER	N/A
NITEK WY	Basic insulation: two wrapped or one extruded wire	tiek witek whitek	N/A
iek antie	 Supplementary insulation: two layers, wrapped or extruded 	et itet itet si	N/A
- STEK	Reinforced insulation: three layers wrapped or extruded	The the test	P
3,	Spirally wrapped insulation:	Mrs. Mrs. Mrs.	N/A
unliter w	 creepage distances between wrapped layers > cl. 26 _ P1 values 	NUTER WALTER WALTER	N/A
LTEK WAL	 path between wrapped layers sealed, the test voltage of K2 is multiplied with 1,35 	et milet m	N/A
ek wite	 test 26.2.3 – Test A, passed for wrapped layers 	The state of the	N/A
LIER	the finished component pass the electric strength test according to cl. 18.3	the text that	N/A
TEX.	a) Insulated winding wire used for basic or supplementary insulation in a wound part:	mer mer an	N/A
1. m	comply with Annex K	NITE WALL WALL OF	N/A
CER SI	two layers for supplementary insulation	at at at a	N/A
10,	one layer for basic insulation	in the Meridia	N/A
WALTER	one layer for mechanical separation be- tween the insulated wires of primary and secondary. This layer fulfils the requirement of basic insulation.	Whitek whitek white	N/A
The s	b) Winding wire with double or reinforced insulation:	The state of the	Р
. " "	 comply with Annex K 	The Maria And My	Р
EX WALTE	the insulation of the insulated winding wire: three layers	antiet while whi	P P
MALTER	dielectric strength test with the values according 18.3 multiplied by 1,25	LIEN WIEN WITH	WALTE WALTE
	Where the wire is wound:	24, 24, 24,	Р

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The state of	IEC 61558-2-16	et the the start	anti an
Clause	Requirement + Test	Result - Remark	Verdic
40,000	upon metal or ferrite cores	THE METER WATER	Р
70t 1	upon enamelled wire	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	P
in in	under enamelled wire	Will Mill A	P
EX MUTEX	one layer for mechanical separation between the insulated wires of primary and secondary. This layer fulfils the requirement of basic insulation.	TEK WALTER WALTER WAS	P
SLIEK I	both windings shall not touch each other and also not the core.	et let let	P. S. Life
The T	100 % Routine test according to Annex K.3 for windings giving double or reinforced insulation	MUT AND AND	N/A
CER LEX	no creepage distances and clearances for insulated winding wirers	ith mair mair on	P
	for TIW wires values of box 2) c) of table 13, table C.1 and table D.1 of part 1 and of clause 26.106 are not required	auntic unit unit	MA PILLE
=IW	Transformers which use FIW wire	71	N/A
19.12.101 (A1)	Max. class F for transformers which use FIW-wire	JULIE WHITE WHITE	N/A
19.12.102 (A1)	FIW wires comply with IEC 60851-5, Ed.4.1; IEC 60317-0-7 and IEC 60317-56, Ed.1.	The facility of	N/A
MUL	other nominal diameter as mentioned in table 19.101 can be calculated with the formula after table 19.111	Juniter Marin Mari	N/A
nliet ni	FIW wire used for basic or supplementary insulation for transformers according 19.1.2 (separating transformers) of IEC 61558-2-16:	WILL WILL WILL	N/A
TEX WHITE	the test voltage of table 8a – part 1, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 19.111	EX WILLEX WATER WAT	N/A
MUTEK M	one layer for mechanical separation is located between the insulated wires of primary and secondary. This layer fulfil the requirement of basic insulation	White white white	N/A
LIEK WAL	between FIW and enamelled wire, no requirements of creepage distances and clearances	TEK MUTER MUTER M	N/A
EK WALTER	no touch of FIW and enamelled wires (grad 1, or grad 2)	H WITER WITER WITE	N/A
WALTER O	FIW wire used for double or reinforced insulation for transformers according 19.1.3 (isolating and safety isolating transformers) of IEC 61558-2-16 (PRI and SEC basic insulated FIW-wire):	Whitek Whitek Whitek	N/A

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	7	V	Λ
1		V	
-			

Clause	Requirement + Test	Result - Remark	Verdict
MUTEX M	the test voltage of table 8a – part 1, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 19.111	Whitek Multer Multer Au	N/A
LIER WIL	for primary and secondary winding FIW-wire for basic insulation is used	TEX MITER MITER MITT	N/A
ek waiter	one layer for mechanical separation is located between the insulated wires of primary and secondary. This layer fulfil the requirement of basic insulation	Whitek united whitek	N/A
Zu Z	no touch between the basic insulated PRI and SEC FIW-wires	MULT MULT MULT	N/A
TEK MIT	between PRI- and SEC-FIW wires, no requirements of creepage distances and clearances	of the right and and	N/A
y white	Alternative construction used for reinforced insulation (reinforced insulated FIW wire and enamelled wire)	THE WIFE WIFE	N/A
WILLER W	the test voltage of table 8a – part 1, based on the working voltage reinforced insulation, comply with the min. voltage strength of table 19.111	WILLEX MULTER MU	N/A
ne vinite	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	THE WALLEY	N/A
MALTEY.	no touch between the FIW wire and the enamelled wire	THE STEE WITTER	N/A
NATIEK W	between the reinforced FIW wire and any other parts, no requirements of creepage distances and clearances exist	NITER WAITER WA	N/A
itek wai ek waitek	Alternative construction with FIW wires, basic or supplementary insulated for transformers double or reinforced insulation according to 19.1.3 (basic/supplementary insulated FIW wire + enamelled wire + creepage distance and clearances for basic insulation)	LEX WHITEK WHITEK WHITEK	N/A
unitek wa	the test voltage of table 8a – part 1, based on the working voltage of basic or supplementary insulation, comply with the min. voltage strength of table 19.111	MITER WHITER WHITER W	N/A
TEK WALTE	PRI or SEC basic insulated FIW wire and to the other winding (enamelled wire) requirements of supplementary insulation	et whitek whitek whitek	N/A

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	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdic
WALTER WI	creepage distances and clearances between the basic insulated FIW wire and the enamelled wire for basic or supplementary insulation are required.	White white white wh	N/A
ناور معانا	Where the FIW wire is wound	cet get get with	N/A
	upon metal or ferrite cores	and the man	N/A
	one layer for mechanical separation be- tween the insulated wires and the core or the enamelled wires is required. This layer fulfils the requirement of basic insulation.	THE STEE STEEL OF	N/A
SLIEK W	both windings shall not touch each other and also not the core.	et let let il	N/A
19.13	Handles, operating levers and the like shall be fixed	The me me me	N/A
19.14	Protection against electric shock: covers securely fixed, 2 independent fixing means, one with tool	Rim and screws	un Pin
19.15	Transformer with pins for fixed socket-outlets: no strain on socket-outlet	THE MILES WHITEL W	N/A
Alt	Additional torque 0,25 Nm	L A At	N/A
19.16	Protection index for portable transformers:	WILL MULL MULL MAN	W P
JEK J	200 VA IP20 and instructions for use	IPX0	F G®P
11/	> 200 VA 2,5 kVA IPX4 (single-phase)	The late was	N/A
	> 200 VA 6,3 kVA IPX4 (polyphase)		N/A
10.	> 2,5 VA (single-phase) IP21	mer mer my	N/A
NLTER	> 6,3 VA (polyphase) IP21	TEX TEX STEEL O	N/A
19.17	Transformers IPX1 - IPX6 totally enclosed, except for drain hole (diameter 5 mm or 20 mm² with width 3 mm); drain hole not required for transformer completely filled with insulating materials	Only one SELV-circuit	N/A
19.18	Transformers IPX1 with a moulded, if any	LEK LITER WITER WITER	N/A
19.19	Class I transformers with a non-detachable flexible cable or cord with earth conductor and a plug with earth contact	MILLER MILITER MILITER	N/A
19.20	Live parts of SELV and PELV-circuits: separation not less than PRI/SEC of a safety isolating transformer	MITER WHITER WHITER WA	TEX MILES
EK TE	SELV output circuits separated by double or re- inforced insulation from all other than SELV or PELV circuits	LIEK WHITEK WHITE WHITE	P.V
, mer	SELV output circuits separated by basic insulation from other SELV or PELV circuits	MULTE MULT MALE	N/A

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	IEC 61558-2-16					
Clause	Requirement + Test	Result - Remark	Verdict			
19.20.1	SELV circuits and parts not connected to protective earth, to live parts, or protective conductors forming part of other circuits	No protective earth	P			
LIEK WA	Nominal voltage (V) > 25 V a.c. or 60 V d.c., the required insulation fulfils the high voltage test according to table 8 a	TEX WALTEX WALTEX	N/A			
19.20.2	PELV-circuits double or reinforced insulation is necessary	No such circuit was used	N/A			
19.21	FELV-circuits: protection against contact fulfils the min. test voltage required for the primary circuit	No such circuit was used	N/A			
19.22	Class II transformers shall not be provided with means for protective earth	ar all the	P			
ilek muri	For fixed transformers an earth conductor with double or reinforced insulation to accessible metal parts is allowed	et writes writes	N/A			
19.23	Class III transformers shall not be provided with means for protective earth	· July July July 1	N/A			

20	COMPONENTS		
NITEK W	Components such as switches, plugs, fuses, lamp holders, flexible cables and cords, comply with relevant IEC standard	(see appended table 20)	W LITE P
EK WAL	Components inside the transformer pass all tests of this standard together with the transformer tests	THE WILL WILLIAM	P.
- NLTEK	Testing of components separately to the transformer according the relevant standard:	The lifet with the	N/A
NATIEK V	 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). 	TITES WHITE WHITE WHITE	N/A
20	Components without markings tested under transformer conditions including inrush current.	TER WHITE WHITE WALTE	N/A
WALT	 If no IEC standard exist, the component is test- ed under transformer conditions. 	- WALTER WALTER WA	N/A
20.1	Appliance couplers for main supply shall comply with:	THE MALTER WALTER WALT	N/A
all the	- IEC 60 320 for IPX0	a at at at	N/A
L. 71	- IEC 60 309 for other	LIE WALL WALL WALL	N/A
20.2	Automatic controls shall comply with IEC 60 730-1	e of the state	N/A
20.3	Thermal-links comply with IEC 60691	MULLI MULL MULL	N/A
20.4	Switches shall comply with annex F	Switch has approved	N/A
10,	Disconnection from the supply:	When the the man	N/A

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IEC 61558-2-16			arti ari
Clause	Requirement + Test	Result - Remark	Verdic
WALTER W	by a switch, disconnecting all poles of the supply (full disconnection under the relevant overvoltage category	White white white	N/A
·	or a flexible supply cable and cord with plug	1. 1. 1.	N/A
in we	or an instruction sheet: disconnection by all- poles switches incorporated in fixed wiring	TER WALTER WALTER WAL	N/A
20.5	Socket-outlets of the output circuit shall be such that there is no unsafe compatibility to plugs complying with input circuit.	while while while	and Per
VILL .	Plugs and socket-outlets for SELV systems with both a rated current = 3A and a rated voltage =24 V shall comply with following:	unite unit uni	TEX SIFEY
	SELV plug and socket-outlets shall comply with IEC 60 884-2-4 and IEC 60 906-3	t of et of	Р
	It is not possible for plugs to enter socket- outlets of other standardised voltage system	MULL MULL MUL	N/A
Mrs	Socket outlets do not accommodate plugs of other standardised voltage systems	WALTE WALTE WALT	N/A
WILLE A	Socket outlets do not have a protective earth contact	UNLIEK WALTER WALTER OF	N/A
LIFER	PELV plug and socket-outlets shall comply with following:	THE MALLER WAS	N/A
ek white	It is not possible for plugs to enter socket- outlets of other standardised voltage system	NITE WILLE	N/A
MITEL	Socket outlets do not accommodate plugs of other standardised voltage systems	TEX STEX NITER	N/A
LITEK I	Socket outlets do not have a protective earth contact	of the tex	N/A
0 - 50 50 - 50	FELV plug and socket-outlets shall comply with following:	t it it it	N/A
F 54	It is not possible for plugs to enter socket- outlets of other standardised voltage system	the man man man	N/A
When	Socket outlets do not accommodate plugs of other standardised voltage systems	White White White	N/A
20.6	Thermal cut-outs, overload releases etc. have adequate breaking capacity	MILER MILER WILLER	INTE IN P
	Thermal cut outs fulfil the relevant requirements of 20.7 and 20.8	LIEK WALTER WALTER WA	N/A
	Thermal links fulfil the relevant requirements of 20.8	et outet miliet muit	N/A
	The breaking capacity is in accordance with the relevant fuse standard	THE ITEM LITER	INTE - PE

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IEC 61558-2-16			White whi
Clause	Requirement + Test	Result - Remark	Verdic
20.6.1	For Fuses According IEC 60127 and IEC 60269, the fuse current does not exceed 1,1 times of the rated value	White white white	P
20.7	Thermal cut outs shall meet the requirements of 20.7.1.1 and 20.7.2, or 20.7.1.2 and 20.7.2.	at the tite of	N/A
20.7.1	Requirements according to IEC 60730-1	Aug Aug Aug	N/A
20.7.1.1	Thermal cut-out tested as component shall comply with IEC 60 730-1	WALTER WALTER WALTER	N/A
20.7.1.2	Thermal cut-out tested as a part of the transformer	at let get	N/A
TEX.	a) Thermal cut outs type 1 or type 2 (IEC 60730-1)	and any any a	N/A
TEX MUTE	b) Thermal cut outs fulfil the requirements of micro-interruption (type 1C or 2 C) or micro-disconnection, (type 1B or 2B) (see IEC 60730-1)	EX WHITEX WHITEX WHITE	N/A
Y WALTER	c) Thermal cut outs with manual rest have a trip free mechanism (type 1E and 2E) (see IEC 60730-1)	whitek whitek whitek	N/A
WILLE A	d) The number of cycles of automatic action shall be:	INLIER WHITE WHITE W	N/A
LITER WAL	 3000 cycles for self resetting thermal cut- outs 	THE MILITER WALT	N/A
ek watif	300 cycles for non self resetting thermal cut-outs resetting by hand	NITE MILITARE	N/A
NLTEK.	300 cycles for non self resetting thermal cut-outs resetting disconnecting	THE THE STEEL	N/A
CLIEK 10	 30 cycles for non self resetting thermal cut- outs which are only resetable by a tool 	The text text is	N/A
er s	e) Thermal cut outs fulfil the electrical stress according IEC 60730-1, 6.14.2	it was any on	N/A
79.	f) Characteristic of thermal cut-outs:	in white and and	N/A
L CLER	- ratings according IEC 60730-1, cl. 5	- at all the	N/A
10,	classification according to:	murr mer mur.	N/A
INTER WINTER	1) nature of supply to IEC 60730-1, cl. 6.1	Let tet tet a	N/A
	2) type of load controlled to IEC 60730-1, cl. 6.2	me me me a	N/A
	3) degree of protection IPX0 to IEC 60730-1, cl. 6.5.1	LIEK WALTER WALTER WALT	N/A
	4) degree of protection IP0X to IEC 60730-1, cl. 6.5.2	et united whites whites	N/A
	5) pollution degree to IEC 60730-1, cl. 6.5.3	A St St	N/A
	6) comparative tracking index to IEC 60730-1, cl. 6.13	MULL MULL MULL	N/A

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
· Willey	T-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- Life Cliff Title	20 XW
Alt.	7) max. ambient temperature to IEC 60730-1, cl. 6.7	M. M. M.	N/A
20.7.1.2	Thermal cut-out tested as a part of the transformer, test with 3 samples:	WILL MULL MULL M	N/A
ir. Avr	at least micro-interruption or micro- disconnection (IEC 60730-1)	TEX WILLER WILLER WILL	N/A
WALTE	 300 h aged at ta (transformer) + 10°C 	t lift slift mire	N/A
SLIER	 subjected to a number of cycles for automatic operating according 20.7.1.1 	et tet tet	N/A
INLIEK WI	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	and while and	N/A
20.7.2	Thermal cut-outs shall have adequate breaking capacity	et united united unit	N/A
20.7.2.1	The output of the transformer with a non self resetting thermal cut out is short circuited at a supply voltage 1, 1 of rated supply voltage. After opening of the cut off, the supply voltage is switched of, until the transformer is cooling down.	MULTER MULTER MULTER	N/A
	3 cycles at 25° C for transformers without ta min	att a milet and	N/A
jt je	3 cycles at ta min for transformers with ta min		N/A
White w	 after the 3 cycles short circuit of the output at 1,1 of rated supply voltage for 48 h. 	White white white	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 opera- tional.	MILIER WHITER MILIE	N/A
20.7.2.2	The output of the transformer with a self resetting thermal cut out is short circuited at a supply voltage 1, 1 of rated supply voltage.	let writes writes wri	N/A
	- 48 h at 25° C for transformers without ta min	A A A	N/A
	24 h at ta and 24 h at ta min for transformers with ta min	MULL MILL MILL	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 opera- tional.	unite unite unites	N/A
20.7.3	Test of a PTC resistor:	1 1 1 1 1	N/A
711.	5 cycles: transformer short-circuited for 48 h by 1,1 times of the input voltage and max. ta	Murit Autr Au	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
10/10	while the the the the	The set will	WILL MULL	
NALTEK W	5 cycles: transformer short-circuited for 48 h by 0,9 times of the input voltage and min. ta (if declared)	TEX SITEX BLIEF	N/A	
	After the test: withstand the test of clause 18, show no damage in sense of this standard, and be operational.	iet united united uni	N/A	
20.8	Thermal links shall be tested in one of the following two ways.	t outst outst sunis	N/A	
20.8.1	Thermal-links shall comply with IEC 60 691 as a separate component.	THE STEE STIES	N/A	
1	- electrical conditions to IEC 60691, cl. 6.1	10 20 20	N/A	
area an	- thermal conditions to IEC 60691, cl. 6.2	LIER NITER WITE W	N/A	
et e	- ratings to IEC 60691, cl. 8 b	700	N/A	
r mur	 suitability of sealing components, impregnating fluids or cleaning solvents IEC 60691, cl. 8 c 	et white white whi	N/A	
20.8.2	Thermal-links tested as a part of the transformer:	LIER NITER WAITE	N/A	
1	– ageing test 300 h by 35 ℃or ta + 10 ℃	m m *	N/A	
Whi I	After transformer fault condition the thermal link operate without sustaining arcing	JULIER WALTER WALTER	N/A	
المال المالة	after opening the thermal-link shall have an insulation resistance of at least 0,2 M	TEX MALIE WA	N/A	
LEK WILLE	3 cycles for replaceable thermal-links		N/A	
L THE	3 new specimens for not replaceable thermal- links	and the the	N/A	
20.9	Self-resetting devices not used if mechanical, electrical, etc. hazards	Mult Mil Mil	N/A	
20.10	Thermal cut-outs which can be reset by soldering operation are not allowed	HITE WHITE WALL W	N/A	
20.9	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.	THE WILL WAS	P	

21	INTERNAL WIRING		P
21.1	Internal wiring and electrical connections protected or enclosed	incl. And Ang and	Р
Vr. 11	Wire-ways smooth and free from sharp edges	Life White White when a	P
21.2	Openings in sheet metal: edges rounded (radius 1,5 mm) or bushings of insulating material	et aliet wiet aniet ani	N/A
21.3	Bare conductors: distances adequately maintained	30 J. A. A.	- P
21.4	When external wires are connected to terminal, internal wiring shall not work loose	WALTER WALTE WALL WALL	WP.

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
21.5	Insulation of heat-resistant and non-hygro material for insulated conductors subject to perature rise > limiting values given in 14.	o tem-	P	

22	SUPPLY CONNECTION AND EXTERNAL FLEXIBI	LE CABLES AND CORDS	P
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.	P 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	NIN PE
NII V TEK	Input and output wiring inlet and outlet openings for flexible cables or cords: insulating material or bushing of insulating material	steet white white white w	M ^{LT} P .
€	Bushings for external wiring: reliably fixed, not of rubber unless part of cord guard	Bushing for output cord.	Р
22.3	Fixed transformer:	INITED MILIE WALL WALL	N/A
TEX.	possible to connect after fixing		N/A
Wer.	inside space for wires allow easy introduction and connection of conductors	mire mair mir mir	N/A
Very "Ou	fitting of cover without damage to conductors	THE WALL OF	N/A
iek whi	contact between insulation of external supply wires and live parts of different polarity not allowed	MULTER WILLER WILLER	N/A
22.4	Length of power supply cord for portable transformers mm ²	MILIER MILIER MILIER WHITE	N/A
TEX	- not exceed 2m for cross-sectional area of 0,5 mm ²	at at at test	N/A
"ik 'nu" - 1	- exceed 2m for cross-sectional area greater than 0,5 mm ²	Hirt will may with	N/A
22.5	Power supply cords for transformers IPX0 and transformers "for indoor use only" ≥ IPX0:	LEK MILLE MILL MILL MI	N/A
er white	 for transformers with a mass ≤ 3 kg: 60227 IEC52 (H03VV) (60245 IEC 53) 	while while while whi	N/A
WALTER	 for transformers with a mass > 3 kg: 60227 IEC53 (H05VV) or 60245 IEC 53 	WILLER MUTER MUTER MUTER	N/A
ULLEK M	Power supply cords for transformers for outdoor use: ≥ IPX0: 60245 IEC57 (H05RN)	If the street street street s	N/A
22.6	Power supply cords for single-phase portable transformers with input current ≤ 16A:	# If The Street Wife Market	N/A
k Jie	cord set fitted with an appliance coupler in accordance with IEC 60320	the fit of	N/A

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
22.7	Nominal cross-sectional area (mm²); input current (A) at rated output not less than shown in table 9	White white white	P	
22.8	Class I transformer with power supply flexible ca- ble: green/yellow core connected to earth terminal	Will Mill Mary A	N/A	
ek sitek	Plug for single-phase transformer with input current at rated output 16 A according to IEC 60 083, IEC 60 906-1 or IEC 60 309	THE WATE WATE THE	N/A	
22.9	Type X, Y or Z attachments: see relevant part 2	were mer me	Р	
22.9.1	For type Z attachment: moulding enclosure and power supply cable do not affect insulation of cable	INLIER WHITER WHITER	MILTER UN PER	
22.9.2	Inlet openings or inlet bushing: without risk of damage to protective covering of power supply cord	LIET SLIET SPLIET SP	N/A	
d s	Insulation between conductor and enclosure:	70	N/A	
MUL	for Class I transformer: insulation of conductor plus separate basic insulation	er white matter man	N/A	
MULL	 for Class II transformer: insulation of conductor plus double or reinforced insulation 	Whitek Whitek White	N/A	
22.9.3	Inlet bushings:	Alt The The	NITE OF P	
20	no damage to power supply cord	We May The A	Р	
LIE WIL	- reliably fixed	ALT THE ME	P	
4 1	not removable without tool	2 3 3 2	Р	
MULL	 not integral with power supply cord (for type X attachment) 	White Mile White	uni P	
WALTER.	not of natural rubber except for Class I transformer with type X, Y and Z attachments	MILIER WALTER WALTER	N/A	
22.9.4	For portable transformers which are moved while operating:	SLIEN WILEY WILLEY W	N/A	
TEK WIL	cord guards, if any, of insulating material and fixed	et liet sliet mi	N/A	
y nijek	Compliance is tested by the oscillating test according to fig. 7:	- Tet Tet Tet	N/A	
70.	 loaded force during the test according to fig. 7 	me me m	N/A	
WITE	 10 N/A for a cross-sectional area > 0,75 	THE LIER LIER	N/A	
,	- 5 N/A for a cross-sectional area 0,75	m. m. m.	N/A	
Life Wh	After the test according to fig. 7:	TER STER STER ON	N/A	
1 1	no short-circuit between the conductors	. 70, 20, 20	N/A	
MUT	no breakage of more than 10% of stands of any conductor	MULTER WALTER WALT	N/A	
WALTER	no separation of the conductor from the termi- nal	Miles Whites white	N/A	

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IEC 61558-2-16			ane, who
Clause	Requirement + Test	Result - Remark	Verdic
Cherry.	no leasoning of any cord guards	CALLER AND SOLVER	N/A
20	no loosening of any cord guards no damage of the cord or cord guard	10 10 to the	N/A N/A
there all	no damage of the cord or cord guard no broken strends piereins the insulation and	REFERENCE WITE	10° - 11° - 11
5 ^{EX} ~ 5	no broken strands piercing the insulation and not becoming accessible	at the set of	N/A
22.9.5	Cord anchorages for type X attachment:	the with my	P
ek Muliek	 glands in portable transformers not used unless possibility for clamping all types and sizes of cable 	Whitek Whitek white	N/A
White 4	 moulded-on designs, tying the cable into a knot and tying the end with string not allowed 	JUNITER WALTER WALTER	N/A
OLIE ON	labyrinths, if clearly how, permitted	tet tet tiet i	N/A
	replacement of cable easily possible	5 My M 14	N/A
IL WILL	protection against strain and twisting clearly how	EX WILLEY WILLEY WILL	N/A
WALTER	suitable for different types of cable unless only one type of cable for transformer	MILER MILIER WHITE	N/A
NUTER N	the entire flexible cable or cord with covering can be mounted into the cord anchorage	TIFE DUTER WHITER	N/A
jet .	if tightened or loosened no damage		N/A
r	no contact between cable or cord and accessible or electrically connected clamping screws	ar anti ur	N/A
WILL	cord clamped by metal screw not allowed	The City of the	N/A
	one part securely fixed to transformer	7/11 /20 2	N/A
Mer.	 for Class I transformer: insulating material or insulated from metal parts 	WALLER WHILE WHILE	N/A
Wile M	for Class II transformers: insulating material or supplementary insulation from metal parts	NIFER WHITER WHITER W	N/A
TER VIVIE	Cord anchorages for type X, Y, Z attachments: cores of power external flexible cable or cord insulated from accessible metal parts by:	lex miller miller wat	N/A
MULL	 basic insulation (Class I transformers), sepa- rate insulating barrier/cord anchorage 	WHITE WHITE WHITE	N/A
MUTE A	supplementary insulation (Class II transformers), special lining/cable or cord sheath of cable sheath of cable	uniter uniter waiter	N/A
in m	Cord anchorages for type X and Y attachments:	LIER WILLE WALTE WE	N/A
TEX WALTE	replacement of external flexible cable or cord does not impair compliance with standard	et alrest ourest mai	N/A
- NITEK	the entire flexible cable or cord with covering can be mounted into the cord anchorage	TEX TEX LIES	N/A
200	if tightened or loosened no damage	The Mr. M.	N/A

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	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdic
WALL	no contact between cable or cord and accessible or electrically connected clamping screws	MUTTER MUTE AND THE MUTE	N/A
21/2 M	cord clamped by metal screws not allowed	NITER OFFICE WALLE WALL	N/A
. TEX	knots in cord not used	a at at the	N/A
. 7)	labyrinths, if clearly how, permitted	it with our one a	N/A
EK MUTTER		Output cord are type Z for all models.	P
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:	Whitek Multek Whitek Multe	N/A
INLIED ON	 for the test with clamping screws or tightened with torque 2/3 of that specified in table 11 	litek waliek waliek waliek.	Р
5 ⁶⁷⁶ ~15	not possible to push cable into transformer	at left left left.	Р
-21,	- 25 pulls of 1 s	were any my m	Р
k alifer	 1 min torque according to table 10 	LET JET JET WI	Р
	- mass (kg); pull (N/A); torque (Nm)	Mass <1kg; 30N; 0.1Nm	
Willer W	during test: cable not damaged	THE THE NITE OF THE	Р
	after test: longitudinal displacement 2 mm for cable or cord and 1 mm for conductors in terminals		Р
ek walif	creepage distances and clearances values specified in Cl. 26	Life of the surfer sur	P
22.9.6	Space for external cords or cable for fixed wiring and for type X and Y attachments:	the the state with	N/A
TES.	before fitting cover, possibility to check correct connection and position of conductors	and the text that	N/A
1. 2.	cover fitted without damage to supply cords	the mun mun mun	N/A
	for portable transformers: contact with accessible metal parts if conductor becomes loose not allowed unless for type X and Y attachments terminations of cords do not slip free of conductor		N/A
MULTER	Space for external cords or cable for type X attachment and for connection to fixed wiring, in addition:	NUTER WALTER WALTER WALTER	N/A
ALTER ON	conductor easily introduced and connected	TEX ITEX SITES OUTED	N/A
TEX WALTE	possibility of access to terminal for external conductor after removal of covers without special purpose tool	A TER STER WITER	N/A

23 TERMINALS FOR EXTERNAL CONDUCTORS	Aug Au
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	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
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, terminals	MULTER MULTER MULTER	ALTER WILLER		
LIER MY	Terminals are integral part of the transformer:	the the the	N/A		
et te	comply with IEC 60 999-1 under transformer conditions	t at at the	N/A		
-1,	Other terminals:	MULL AUT. MU	N/A		
WILLIE V	 separately checked according to IEC 60 998-2-1, IEC 60 998-2-2 or IEC 60 947-7-1 	directles directly directles.	N/A		
Write an	used in accordance with their marking	LIER ALTER WALTER ON	N/A		
TEK MIT	checked according to IEC 60 999-1 under transformer conditions	et tet tet su	N/A		
WALTER 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 metal parts should conductor break away 50% of specified value (Cl. 26)	JANUTER WHITER WHITER	N/A		
nir uni	Transformer with type Y and Z attachments for external conductors: soldered, welded, crimped, etc. connections allowed	THE MILE WAS	P		
WALTER AL	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 metal parts should conductor break away 50% of specified value (Cl. 26)	White while while	WALLER WALTER		
23.2	Terminals for type X with special cords Y and Z attachments shall be suitable for their purpose:	of the top of	EL TELP		
20,	- test by inspection according to 23.1 and 23.2	Mur Mr. Mr.	Р		
MILIE	- pull of 5 N/A to the connection before test ac-	- TEX LIEK NUTE	PI		

N/A

N/A N/A

N/A

N/A

so designed that:

cording to 14.1

or loosened:

Other terminals than Y and Z attachments shall be

so fixed that when the clamping means is tightened

internal wiring is not subjected to stress

creepage distances and clearance are not re-

duced below the values specified in Cl. 26

Other terminals than Y and Z attachments shall be

terminal does not work loose

23.3

23.4

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ie win	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
1000	The me me in the	TEN TEN TE	THE THEFT	
, let	they clamp the conductor between metallic surfaces with sufficient contact pressure	Me Me M	N/A	
11/2 11	without damage to the conductor	NITE WALL WALL A	N/A	
	- test by inspection according to 23.3 and 23.4	A A A A .	N/A	
EK WITE	 10 times fastening and loosening a conductor with the largest cross-sectional area with 2/3 of the torque specified in Cl. 25 	t lifet stift intif	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	WILLER WALTER WILLIER	N/A	
23.6	Terminal blocks not accessible without the aid of a tool	STEK SLIEK WLIEK SU	N/A	
23.7	Transformer with type X attachments: stranded conductor test (8 mm removed):	et ret ret ni	N/A	
y Jet	Class I transformers: no connection between live parts and accessible metal parts	THE THE THE	N/A	
7.E.p.	free wire of earth terminal: no touching of live parts	MIT ME MY	N/A	
nitek uni	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	neite white whi whi	N/A	
23.8	Terminals for a current > 25 A:	WITE WITE WALL	N/A	
- Let	- pressure plate, or	30 x x+	N/A	
me.	two clamping screws	miter units white	N/A	
23.9	When terminal, other than protective earth conductor, screws loosened as far as possible, no contact:	NIFEY WHITEK WHITEK	N/A	
LIEL WAL	between terminal screws and accessible metal parts	iek muriek muriek muri	N/A	
ek walter	between terminal screws and inaccessible metal parts for Class II transformers	- NITER OUTER MITE	N/A	

24	PROVISION FOR PROTECTIVE EARTHING	WITE MALL WALL WALL	III. B
24.1	Class I transformers: accessible conductive parts connected to earth terminal	STEET INSTEEL WASTER OF	ALT P OF
. J	Class II transformers: no provision for earth		J 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	White white white white	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
24.3	No risk of corrosion from contact between metal of earth terminal and other terminal	White white	N/A	
nr. n	In case of earth terminal body of Al, no risk of corrosion from contact between Cu and Al	Write Mure where a	N/A	
in and	Body of earth terminal or screws/nuts of brass or other metal resistant to corrosion	TER WATER WHITE WAS	N/A	
24.4	Resistance of connection between earth terminal and metal parts 0,1 with a min. 25 A or 1,5 rated input current at 1 min	JUNETER WHITE WHITE	N/A	
24.5	Class I transformers with external flexible cables or cords:	antite write wat.	N/A	
ivez an	current-carrying conductors becoming touch before the earth conductor	STEE MUTE WATER ON	N/A	

25	SCREWS AND CONNECTIONS	N/A
25.1	Screwed connections withstand mechanical stress-es	N/A
WALTER.	Screws transmitting contact pressure or likely to be tightened by the user or having a diameter < 2,8 mm, shall screw into metal	N/A
r _{es} 'm	Screws not of metal which is soft or liable to creep (Zn, Al)	N/A
unti	Screws of insulating material: not used for electrical connection	N/A
WALTER	Screws not of insulating material if their replacement by metal screws can impair supplementary or reinforced insulation	surviet united anited N/A
ilek mu	Screws to be removed (replacement etc. of power supply cord) not of insulating material if their replacement by metal screws can impair basic insulation	N/A
ik mit	No damage after torque test: diameter (mm); torque (Nm); ten times	N/A
LIEŁ	No damage after torque test: diameter (mm); torque (Nm); five times	N/A
25.2	Screws in engagement with thread of insulating material:	N/A
** **	 length of engagement 3 mm + 1/2 screw di- ameter or 8 mm 	N/A
in me	correct introduction into screw hole	N/A
25.3	Electrical connections: contact pressure not trans- mitted through insulating material	- N/A

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	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
	with our way and any	- At At JE	ALTE OLIV		
25.4	In case of use of thread-forming (sheet metal) screws for connection of current-carrying parts: clamping and locking means provided	TEX SITEX OFFER	N/A		
	Thread-cutting (self-tapping) screws used for the connection of current-carrying parts allowed if they generate a full form machine screw thread and if not operated by the user	TEK WALTER WALTER WAS	N/A		
MUTIEN	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	white white white	N/A		
25.5	Screws for current-carrying mechanical connections locked against loosening	THE LITER STITUTE OF	N/A		
IIEK MIT	Rivets for current-carrying connections subject to torsion locked against loosening	et ret ret i	N/A		
25.6	Test of screwed glands with a torque according ta- ble 12. After the test no damage at the transformer and the gland.	June June June	N/A		

26	CREEPAGE DISTANCES AND CLEARANCES		W. b
26.1	See 26.101		et RP
26.2	Creepage distances (cr) and clearances (cr)	" Mr. Mr.	P
26.2.1	Windings covered with adhesive tape	# At At	N/A
-7,	the values of pollution degree 1 are fulfilled	murr mer me	N/A
MULTER	 all isolating material are classified acc. to IEC 60085 and IEC 60216 	INLIER WALLER WALLER	N/A
ZE*	- test A of 26.2.3 is fulfilled	a st st	N/A
26.2.2	Uncemented insulating parts pollution degree P2 or P3	Pollution degree 2	Р
, m	 all isolating material are classified acc. to IEC 60085 and IEC 60216 	TER MULTER MULTER MULT	W P
WILL	values of pollution degree 1 are not applicable	- THE STREET WITE	Jet P
26.2.3	Cemented insulating parts	14, 14, 15,	N/A
Mr. C	 all isolating materials are classified acc. to IEC 60085 and IEC 60216 	UNLIER WHITE WHITE W	N/A
Vrie AN	values of distance through insulation (dti) are fulfilled	LIER WHITER WHITER WHI	N/A
IEK WYLT	creepage distances and clearances are not required	# Milet Milet White	N/A
- TEX	test A of this sub clause is fulfilled	a de de	N/A
21/2	Test A	THE MULT MALL	N/A

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
OLC.	thermal class	WILL MUTER WITH WILL	N/A	
LIE .	working voltage	at at at out	N/A	
sir si	Test with three specially specimens, with unin- sulated wires, without impregnation or potting	(see appended table)	N/A	
	Two of the three specimens are subjected to:	ic with mit me in	N/A	
EK WILLER	the relevant humidity treatment according to 17.2 (48 h)	MILIER WALTER WALTER WAL	N/A	
MALIEK	the relevant dielectric strength test of 18.3 multiplied with factor 1,35	THE STREET SHITES SHITE	N/A	
INLTEK VIN	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	STER WHITE WHITER WHITER	N/A	
K WALTER	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	witer writer writer write	N/A	
26.2.4	Enclosed parts, by impregnation or potting	Considered (test B) fulfilled by internal construction of approved opto-coupler.	P	
26.2.4.1	The requirements of reduced values as stated for pollution degree 1 (P1) are fulfilled	THE MALTER WALTER OF	N/A	
iek walte	 all isolating materials are classified acc. to IEC 60085 and IEC 60216 	OLIE WILLY WALLEY WAS	N/A	
- 26*	Test B	L A ST SE	N/A	
any !	- thermal class	antite matter water with	N/A	
Jet .	working voltage	a state of	N/A	
	 Test with three specially specimens, potted or impregnated. The dielectric strength test is ap- plied directly to the joint. 	(see appended table)	N/A	
. `	Two of the three specimens are subjected to:	me in m	N/A	
MALTE	the relevant humidity treatment according to 17.2 (48 h)	WHILE MATER MALIE MALE	N/A	
WILLER W	 the relevant dielectric strength test of 18.3 multiplied with factor 1,25 	INTER MATER WALTER WALTER	N/A	
nitek uni	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	TEK WHITEK WHITEK	N/A	
L MULTER	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	Whitek muttek muttek mutt	N/A	

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ir wir.	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
26.2.4.2	The requirements of distance through insulation (dti) are fulfilled. (P1 values are not required)	White white w	N/A	
me m	 all isolating materials are classified acc. to IEC 60085 and IEC 60216 	ALTE WALL MALL WA	N/A	
The MUC	Test C	TER OLITER WITE WITE	N/A	
* 15	- thermal class		N/A	
me	working voltage	MITE MILIE WILL	N/A	
MALIER	Test with three specimens, potted or impregnated. (finished components)	(see appended table)	N/A	
NITEK SIN	 Neither cracks, nor voids in the insulating compounds 	THE THE STEEL SELECTION	N/A	
	Two of the three specimens are subjected to:	in the the	N/A	
TE WALT	the relevant humidity treatment according to 17.2 (48 h)	ex united white white	N/A	
MALIFER	the relevant dielectric strength test of 18.3 multiplied with factor 1,35	MILIER MILITER MILITER V	N/A	
untiek 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	Intell Muliter Whitek Whi	N/A	
ek white	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	Multiple whites whites	N/A	
26.3	Distance through insulation	INLIES WALTER WALTER ON	Р	
Writek M	For double or reinforced insulation, the required values of Tables 13, C1, and D1 – boxes 2b, 2c and 7 are fulfilled	LIFEE WHITEE WHITEE WAL	P	
TEN WIT	The insulation fulfil the material classification according IEC 60085 or 60216 or the test of 14.3	SEX WALTER WALTER WALTER	W The Pur	
26.3.1	Reduced values of the thickness of insulation for supplementary or reinforced insulation are allowed if the following conditions are fulfilled:	Whitek whitek whitek	N/A	
unite o	 the isolating materials are classified acc. to IEC 60085 and IEC 60216 	WALLER WHILE MALLES WA	N/A	
LTER JOY	- the test of 14.3 is fulfilled	the the time of	N/A	
EK WALTE	If both requirements are fulfilled, the required values for solid insulation can be multiplied by 0,4	of while willight whitely	N/A	
L SLIER	 Minimum thickness of reinforced insulation ≥0,2 mm 	THE THE STEEL	N/A	

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IEC 61558-2-16			INLIE WAL
Clause	Requirement + Test	Result - Remark	Verdic
WALL .	 Minimum thickness of supplementary insulation ≥0,1 mm 	White white with	N/A
26.3.2	Insulation in thin sheet form	NITER WALLE WHILE VI	Р
est s	If the layers are non separable (glued together):	* * * *	N/A
10	The requirement of 3 layers is fulfilled	ic nutt mur mu	N/A
W.TER	The mandrel test according 26.3.3 is fulfilled with 150 N/A	t united whites white	N/A
WALTER	The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" are fulfilled.	united whitely united.	N/A
VIIE NV	If the layers are separated:	THE THE STEEL O	LIFE NITP
	The requirement of 2 layers is fulfilled	n m m n	Р
	 If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required 	et whitet whitet whi	N/A
nn.	The mandrel test according 26.3.3 is fulfilled on each layer with 50 N/A	MULTER MINITE WILL	W VP
ilek il	 The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" are fulfilled. 	Intrek Matrie Marie 4	P Tet
- 11	If the layers are separated (alternative:	and the	N/A
it nite	The requirement of 3 layers is fulfilled		N/A
NALTER	If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required	Whit was writer	N/A
NLTEX N	The mandrel test according 26.3.3 is ful- filled on 2/3 of the layers with 100 N/A	THE THE LIEF	N/A
TEK WALT	 The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" are fulfilled. 	LEK WILLEY MULTER MULT	N/A
MULTER	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	while while while	N/A
itek mi	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:		TET STEET
er Je	 rated output > 100 VA values in square brack- ets apply 	t at at a	N/A
. Tex	 rated output ≥ 25 VA ≤ 100 VA 2/3 of the value in square brackets apply 	must must must	P
MU.	 rated output < 25 VA 1/3 of the value in square brackets apply 	MULLE MALIE WALL	N/A

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W

IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
26.3.3	Mandrel test of insulation in thin sheet form (specimen 0f 70 mm width are necessary):	All material listed in table 20 have been evaluated.	Р
n. n	 If the layers are non separable – at least 3 layers glued together fulfil the test: 	NET MILL MILL WITH	N/A
in me	- pull force of 150 N/A	TER INLIE MALTE MALTE	N/A
EX MULTER	 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. 	MUNITER MULTER WILLER	N/A
MULTER	 If the layers are separable and 2/3 of at least 3 layers fulfil the test. 	antifek whilek whilek wat	N/A
CENT .	– pull force of 100 N/A	A A A A A	N/A
TEK MIT	 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. 	Et liet wifet wilet	N/A
K SLIEK	If the layers are separable 1 of at least 2 layers fulfil the test:	The The The	P
20,	pull force of 50 N/A	The Mr. Mr. Mr.	Р
WILLER A	 high voltage test of 5,0 kV or the test voltage of 18.3 multiplied by 1,25 whatever is the greater. No flashover, no breakdown. 	JULIER WHITER WHITE WHITE	P
26.101	Creepage distances, clearances and distances through insulation, specified values according to (EN 61558-2-16:09):	The first super	W PW
-70	- table 13, material group IIIa (part 1)	were men men a	Р
- JE	- table C, material group II (part 1)	at let let let	N/A
74	table D, material group I (part 1)	Aury Aury Aury Aury	N/A
INLIES OF	working voltage	342Vrms max.	P
	- rated supply frequency 50/60 Hz	50 Hz	Р
The Will	- rated internal frequency	the life of the writer	ar Pari
EK MITEK	Insulation between input and output circuits (basic insulation):	- Tet Tet SITES	P
TIEX	a) measured values specified values (mm):	A LET LET TO	P
701. 2	Insulation between input and output circuits (double or reinforced insulation):	into mer me m	N/A
Victor MI	a) measured values specified values (mm):	Input to output: CI/Cr: Min.8.0> 5.5mm	P
, mr	b) measured values specified values (mm)	MALTE WALTE WALLE	N/A

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100	IEC 61558-2-16	100
Clause	Requirement + Test Result - Remark	Verdic
WUTER M	c) measured values specified values (mm)	P
LIER WILL	Insulation between adjacent input circuits: measured values	N/A
ek mutiek	Insulation between adjacent output circuits: measured values specified values (mm) :	N/A
WALTER	Insulation between terminals for external connection:	N/A
STEK IN	a) measured values specified values (mm)	N/A
TEN TE	b) measured values specified values (mm)	N/A
} √ε* √111-	c) measured values specified values (mm)	N/A
mr.	5. Basic or supplementary insulation:	P
MALTER W	a) measured values specified values (mm) L/N before fuse: CI/Cr: 4.1mm> 2.40mm Fuse: CI/Cr: 3.2mm> 2.40mm	P.F.
EK SLIEK	b) measured values specified values (mm)	N/A
- Test	c) measured values specified values (mm)	N/A
Alle A	d) measured values specified values (mm)	N/A
inti an	e) measured values specified values (mm)	N/A
TE WALL	6. Reinforced or double insulation: measured values specified values (mm)	N/A
N. C. C. C.	7. Distance through insulation:	Р
TEX.	a) measured values specified values 2-layer insulating tape used (mm)	Р
The Th	b) measured values specified values (mm)	N/A
	c) measured values specified values (mm)	N/A
26.102	Values of IEC 61558-2-16 applicable for frequency up to 3 MHz (EN 61558-2-16:09)	P
White.	For frequency above 3 MHz clause 7 of IEC 60664-4 is applicable (high frequency testing)	N/A

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J. J. L.	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdic
26.103	Clearance (EN 61558-2-16:09)	antier writer	Р
MUTIES AN	a) Clearance for frequency ≥ 30 kHz according figure 101 two determinations are necessary:	NITER MILIER MILIER	pti P
ITEK WILL	determination based on peak working voltage according Table 104 :	TEX NITER MITER WAY	TEL TELD
y , et	Peak working voltage		F P
Me	Basic insulation: required / measured	MITE WILL WILL	W P
MALTER	Double or reinforced insulation: required / measured value	LIET SLIET WLIET	P
nliek wh	and alternative if applicable for approximately homogeneous field according to Table 102	STEE WILLER WILLER ON	N/A
TER SITE	Peak working voltage	at all set s	N/A
20	Basic insulation: required / measured	me me m	N/A
MULIER	Double or reinforced insulation: required / measured value	MILIER WHITER WHITER	N/A
MULTER ON	determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101)	See 26.101	MITEE MILE
ALTE WAL	The minimum clearance is the greater of the two values.	See 26.101	TE WIT PW
EK WALTE	b) Clearance for frequency ≤ 30 kHz according figure 101 two determinations are necessary:	MILL WHILE WHILE	N/A
WALTER	 determination based on peak working voltage with recurring peak voltages according Table 103 : 	MILIER WHITER WHITER	N/A
uniter on	determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101)	NITER WHITEK WHITEK W	N/A
1 Mrs	The minimum clearance is the greater of the two values.	see unite unite uni	N/A
26.104	The working voltages of Table 102, 103 and 104 are peak voltages including µsec peaks EN 61558-2-16:09)	unliet unliet unlie	unit PL
The M	The working voltage according to Table 13 of part 1 are r.m.s. voltages	mite mile mil.	W P
26.105	Creepage distances	LIER OLIER WILLER	P
IEK MITE	Two determinations of creepage distances are necessary (see Figure 102)	at lifet slight sold	at at P
SLIER	determination based on measured peak working voltage according Tables 105 to 110	the text text	Р
20,	Peak working voltage	"Mer Mer Mer	Р

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdic	
The Co.	Pollution degree	2	P	
MUTER M	Basic or supplementary insulation: required / measured	NITER WITER WHITER	nite in P	
ITEK WIL	Double or reinforced insulation: required / measured value	TEK NITEK MITEK MA	TEK WITE P	
WALLEY .	 determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101) 	WALTER WALTER WALTE	yniz # Piz	
White v	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	Whitek Whitek Whitek	unite un Pe	
26.106	Distance through insulation (EN 61558-2-16:09)	LIER OLIER WILLER	U P S	
TEX WITE	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 united united uni	P	
Mer	 the max. frequency is < 10 MHz 	INLIER MALTE WALLE	July J.b.	
	the field strength approximately comply with Figure 103	LIEF SLIEF BLIEF	INLIER MILES	
LIEK ME	no voids or gaps are present in between the solid insulation		TEX LIEP	
EK TE	For thick layers d1 ≥ 0,75 the peak value of the field strength is ≤ 2 kV/mm		Р	
76.k-	For thin layers d2 ≤ 30 µm the peak value of the field strength is ≤ 10 kV/mm	min min my	P	
Mrs.	For d1 > d > d2 equation (1) is used for calculation the field strength	WILL MILL MILL	W WP	
26.107 (A1)	For transformers with FIW wires the following test is required	NITER WILLER WATER OF	N/A	
ir anii	- 10 cycles are required	rest arrest married and	N/A	
MULTER	 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 	Whitek Whitek White	N/A	
White a	- 1 h at 25° C	ALTER MALTER MALTER	N/A	
et .	- 2 h at 0° C	,	N/A	
	 h at 25° C – (next cycle start again with 68 h max winding temp + 10) 	LIER WHITE WHITE W	N/A	
- Juneil	 during the 10 cycles test 2 x working voltage is connected between PRI and SEC 	MALTER WALTER WALT	N/A	

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	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
MUTTER M	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	NITES WALLES WALLES	N/A	
iter mites	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)	TEK WALTER WALTER WAL	N/A	
MITER	 the partial discharge test according to 18.101 is done after the cycling test and after the high voltage test, if the peak working voltage is >750 	Whitek Whitek Whitek	N/A	

27	RESISTANCE TO HEAT, FIRE AND TRACKING		P
27.1	Resistance to heat	EX STER WITE MITTER WITE W	P.
ائن ب	All insulating parts are resistant to heat	7, 7, 7	- P
Mr	For parts of rubber, which passed the test of 19.9, no additional test is required.	White white white wh	N/A
UNLT V	The tests are not required for cables and small connectors with a rated current ≤ 3 A, a rated voltage ≤ 24 V a.c. or 60 V d.c. and a power ≤ 72 W	nites white white white	MA P
27.1.1	External accessible parts	The sure of	P
SEE WALTE	The Ball-pressure test -: diameter of impression 2 mm; heating cabinet temperature (C) at 70 °C or the temperature T of 14.1 (T + 15) - is fulfilled.	White while white	Р
27.1.2	Internal parts	TER STER WITE WILL	Р
Whitek W	For insulating material retaining current carrying parts in position , the ball-pressure test -: diameter of impression 2 mm; heating cabinet temperature (C) at 125 °C or the temperature T of 14.1 (T + 15) - is fulfilled	(see appended table 27.2)	Р
27.2	Resistance to abnormal heat under fault conditions	Mr. Mr. M. 2	N/A
27.3	Resistance to fire	THE LIFE NITER ON	Р
WALTER	All isolating parts of the transformer shall be resistant to ignition and spread of fire. The test according to IEC 60696-2-10 is required	MITER MILIER MILIER MILIE	P
27.3.1	External accessible parts (glow wire tests)	a at at at	P
in m	- 650° C for enclosures	Lie while whi with	N/A
TEX WALT	 650 ° C for parts retaining current carrying parts in position and terminals for external conductors Current ≤ 0,2 A 	ex mutex mutex mutex m	N/A
WALTE	 750° C for parts retaining current carrying parts in position and terminals for external conductors with fixed wiring. Current > 0,2 A 	MILIER WHITE WHITE WHI	N/A

27.4

Reference	Reference No.: WTX22X08157378S Page 53 of 122				
TER WILL	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
	into one one of the	at the second	المال المالي		
an Mariek	 850° C for parts retaining current carrying parts in position and terminals for external conductors with non fixed wiring. Current > 0,2 A 	TEX STEX STEX NOTES AND	P		
27.3.2	Internal parts		Р		
in and	550° C for internal insulating material – not retaining current carrying parts in position	TEX MULTER MULTER WILL	N/A		
MULTE	- 650° C for coil formers (bobbins)	T1 Bobbin (See appended table)	mir Pir		
MULLE .	 650 ° C for parts retaining current carrying parts in position and terminals for external conduc- tors. Current ≤ 0,2 A 	WALLER ANTIER ANTIER AN	N/A		
ine on	 750° C for parts retaining current carrying parts in position and terminals for external conductors with fixed wiring. Current > 0,2 A 	et et tet jet	N/A		
1,	 850° C for parts retaining current carrying parts 	РСВ	Р		

IPX0

appended table)

Tested with all materials. (See

N/A

N/A

in position and terminals for external conductors

with non fixed wiring. Current > 0,2 A

material of group IIIa

50 drops

For IP other than IPX0:If insulating parts retaining

Test (175 V): no flashover or breakdown before

current carrying parts in position and under P3 conditions, the material resistance to tracking is at least

28	RESISTANCE TO RUSTING	N/A
me	Ferrous parts protected against rusting	N/A

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TER OUT		IEC 61558-2-16	ALTER MITE MAIN
Clause	Requirement + Test	Result - Remark	Verdict
-01	ANNEY E. CLOW MIDE TO		The The Market

E _{zz}	ANNEX E , GLOW WIRE TEST	mer me me m	Р
WITER	The test is required according to IEC 60695-2-10 and IEC 60695-2-11 with the following additions:	NUTER WALTER WALTER	unii P
E.1	Clause 6, "Severities" of IEC 6095-2-11, apply with the temperature stated in 27.3 of IEC 61558-1	TEK NITEK MITEK MATEK M	LIE'P NI
E2	Clause 8, "Conditioning", of IEC 60695-2-11 apply, preconditioning is required	t itek sitek nitek mi	EX PIE
E3	Clause 10, "Test Procedure", of IEC 60695-2-11apply, The tip of the glow wire is applied to the flat side of the surface.	NATER MATER MATER MATER	PEK

F	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 under the conditions of F2.	et white white white wh	N/A
F.§	Manually operated mechanical switches tested as part of the transformer shall comply with the conditions specified under F.3	THE STEE STEET STATES	N/A

H ² ur	ANNEX H, ELECTRONIC CIRCUITS (IEC 61558-1)	P
H1	General notes on tests (addition to clause 5)	Р
L	LEK TEK TEK STEEK WALL WALL WAS MAN WAS THE STEEK	Р
H.2	SHORT-CIRCUIT AND OVERLOAD PROTECTION (ADDITION TO CLAUSE 15)	P
H.2.1	Circuits designed and applied so that fault conditions do not render the appliance unsafe	P
	During and after each test:	Р
ille mi	temperatures do not exceed values specified in table 3 of Cl. 15.1	Pint
EX WITTE	transformer complies with conditions specified in sub-clause 15.1	Р
WALTER.	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
H.2.2	Fault conditions a) to f) of sub-clause H.2.3 are not tested if the following conditions are met:	N/A
7 2/L	electronic circuit is a low-power circuit as specified	N/A

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				1	7
1	A			4	۱
J		//	V		
		V	v		4

	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
MULLER ON	safety of the appliance as specified does not rely on correct functioning of the electronic circuit	Whitek whitek whitek	N/A		
H.2.3	Fault conditions tested as specified when relevant:	L 21, 2, 7	P		
TIL WILL	a) short-circuit of creepage distances and clear- ances, if less than specified in Cl. 26	TEX WILL WILL WILL	N/A		
er white	b) open circuit at the terminals of any component	t iter alter miter	JNI PI		
NUTER	c) short-circuit of capacitors, unless they comply with IEC 60 384-14	et let let	ALTER MITER		
TEX.	d) short-circuit of any two terminals of an electronic component as specified	mer any me a	P		
ic m	e) any failure of an integrated circuit as specified	The Mulit Mile Mile	P		
TEK WALT	f) low-power circuit: low-power points are connected to the supply source	ek mijek mijek mije	N/A		
WALTER WAL	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	WALTER WALTER	P		
	Fault condition e) is applied for encapsulated and similar components	UNITED WHITER WHITER WE	P N		
	PTC's and NTC's are not short-circuited if they are used as specified	THE MITTER WALL	N/A		
H.2.4	If for a fuse-link complying with IEC 60 127-3 rated fuse current I1 is used, current I2 is measured as specified:	White while while	uni et P		
WALTER	 if I2 < 2,1 x I1 test of 15.8 is repeated with fuse-link short-circuited 	INLIER WALLER WALTER	N/A		
- CEF	- if I2 > 2,75 x I1, no other tests are necessary		AP JP		
itest out the steet	If I2 > 2,1 x I1 and I2 < 2,75 x I1 test of 15.8 is repeated as specified	With my min and	N/A		
	For fuses other than those complying with IEC 60 127-3, the test is carried out as specified 15.3.2 to 15.3.5	ter united anite anit	N/A		
10.	t at at let outsit mark mark	Mur. Mur. Mur.	20. 20.		
H.3	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES INSULATION	STANCES THROUGH	ALTER WINDER		
H.3.1	For live parts separated by basic insulation smaller cr and cl as in 26 are allowed, if H2 is fulfilled.	TEX STEX STEX IN	EF NITP		

H.3	CREEPAGE DISTANCES, CLEARANCES AND DISINSULATION	TANCES THROUGH	P
H.3.1	For live parts separated by basic insulation smaller cr and cl as in 26 are allowed, if H2 is fulfilled.	TEX STEEL MILES MATER O	P
et et	In optocouplers no requirements of cr and cl		J P A
t outlet	For coatings annex W applies. Smaller distances as required in IEC 60664-3, clause 4 are applicable,	THE TEX TEX STE	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
ALEK TEK	For potted transformers cycling tests acc, 26.2. are applicable	MUNICIPALITY OF A	N/A	
H.3.2	The ma. surface temperature of optocouplers is 50 K	Will Mile Mer M	Р	

K. nite	ANNEX K, INSULATED WINDING WIRES FOR US INSULATION	E AS MULTIPLE LAYER	F P
K.1	Wire construction:	141 141 141 141	Р
MALE	insulated winding wire with min. two layers for basic or supplementary insulation	UNITED WALTER WALTER WALTER	N/A
Wiley M	insulated winding wire with min. three layers for reinforced insulation	VDE approved triple insulated wire	n P
TEN ST	winding insulation material:	at all all all a	P
K.2	Conformance test	me me m	N/A
K.2.1	Test 13 of IEC 60 851-5 nominal conductor diameter 0,018 mm 0,1 mm, test as specified in 4.2.1 and 4.2.2 of IEC 60 851-5	White White white white	N/A
White .	Nominal conductor diameter > 0,1 mm, 2,5 mm, test as specified in 4.3.1 and 4.3.2 of IEC 60 851-5	INLIER WHITE WHITE WHITE	N/A
in the	Nominal conductor diameter < 2,5 mm, test as specified in 4.4.1 and 4.4.2 of IEC 60 851-5	a four my n	N/A
, mr	High voltage test immediately after the above specified tests:	MUTTE MITT MUTT MU	N/A
WELL	test voltage for two layers 3 kV	TER STER MITE WITE	N/A
<i></i>	 test voltage for three layers 5,5 kV 	24	N/A
K.2.2	Adherence and flexibility, test as specified under 5.1.4 of IEC 60 851-3	NITE WILL WILL WILL	N/A
LIE WI	high voltage test immediately after this test	CER STEP STEE WITE OF	N/A
	 test voltage for two layers 3 kV 	24, 24, 24	N/A
Miller	 test voltage for three layers 5,5 kV 	- LIEN SLIER MLIE WALL	N/A
K.2.3	Heat shock, test as specified under 3.1 or 3.2 of IEC 60 851-6:	THE THE THE NATION	N/A
- J	high voltage test immediately after this test	m, m, m,	N/A
المارية	test voltage for two layers 3 kV	TEX LIER SLIER MILE.	N/A
	test voltage for three layers 5,5 kV	. 10, 10, 10,	N/A
K.2.4	Retention of dielectric strength after bending, test as specified under test 13 of 4.6.1 c) of IEC 60 851-5	of the tex in	N/A
2/1	high voltage test immediately after this test	THE WALL WAS THE	N/A

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IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict	
north.	2. test voltage for two layers 3 kV	antita mater mater	N/A	
STEE 1	3. test voltage for three layers 5,5 kV	- It let set	N/A	
K.2.5	Resistance to abrasion, test 11 of IEC 60851-3	were the the to	N/A	

U	ANNEX U - INFORMATIVE - OPTIONAL TW - MARKING FOR TRANSFORMERS	
WILL	The tests of Annex U are based on constant S = 4500. Other constants are possible, if the test of U.5.2 is done with positive result.	N/A
U1	General notes and tests	N/A
nliek d	8 transformers of one type are necessary for the test. Tests according U5.	N/A
U.2	Heating (addition to clause 14)	N/A
14.4	Thermal endurance test	N/A
t write	Test according U5 and measurements according 11.1	N/A
. WITEH	Transformers tested as a integral part of the equipment (option), assigned with tw	N/A
JEK .	The thermal conditions are so adjusted, that the duration of test is as indicated by the manufacturer.	N/A
Ek William	If no indications are given, the test period is 30 days	N/A
	After the test, when the transformers have returned to room temperature, they fulfil the following requirements:	N/A
JALTEK J	a) The output voltage has not changed from the measured value at the beginning by more than allowed value of clause 11.1	N/A
Tek un	b) The insulation resistance between input and output winding and between windings and body is, measured with 500 V d.c., not less than 1 MOhm	N/A
Mr.	c) The transformer fulfil the dielectric strength test with 35% of the values in Clause 18, Table 8.a.	N/A
MULTE	The test result is positive, is min. 6 of the 7 samples have passed the test.	N/A
Villey M	The test result is negative, if 2 or more samples fail the test	N/A
IEM WAL	If the result is negative, the test can be repeated with 7 new samples	N/A
U.3	Short circuit and overload protection (addition to clause 15)	N/A

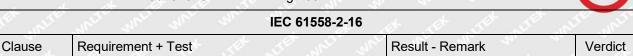
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1 11	IEC 61558-2-16				
Clause	Requirement + Test	Result - Remark	Verdict		
All the second	At short circuit and overload tests the winding temperature if less than the required value of table U.1	Murician Automite	N/A		
U.5	General requirements and information about thermal endurance test on windings	NITE WILL WILL O	N/A		
U.5.1	Thermal endurance test	TER NITER NATER WA	N/A		
et let	Transformers tested at rated output		N/A		
Mer	Loads outside of the oven	MALIE WALL WALL	N/A		
CER	7 transformers are placed in the oven	A ST ST	N/A		
WILLER W	The temperature of the hottest winding of each of the 7 transformers is-together with the oven temperature, at the applicable temperature of table U.2	white white white	N/A		
TEK WALTE	After 4 hours measuring of the actual winding temperatures. Regulation of the oven temperature if necessary	Et Mitet Mitet Mit	N/A		
WALTER W	After 24 hours again measuring of the winding temperature. The temperatures of the 7 samples are very near to the required temperature of the values of table U.2. The test time of the coldest winding is not longer than twice the theoretical test time based on table U.2	JUNITER WHITER WHITER	N/A		
U.5.2	The use of constant S other than 4500 in tw tests	At and the	N/A		
U.5.2.1	Procedure a)	2 34 24	N/A		
MILIE	The manufacturer prepares test results with a minimum of samples of 30.	JUNITE WILLE WILL	N/A		
LIFE	T and log L are calculated from the dates	et let stet	N/A		
All the	The diagram according to Figure U.2 will be founded.	Mar Mar Mar	N/A		
U.5.2.3	Procedure b)	ALTE WALL WALL OF	N/A		
7EK .11	The testing authority shall test 14 new transformers	at at at a	N/A		
ek Marek	Test 1, based on clause U.5.1 but at the calculated test room temperature for 10 days. The test is continued until all transformer fail.	I WILL WALLER WITE	N/A		
	Calculation of the mean life L2 at temperature T2 according to U4	THE TEXT STATE	N/A		
	Test 2, based on clause U.5.1 but at a calculated room temperature T2 (for 120 days). The test time with T2 exceeds L2.	THE STEE WITEE	N/A		
TER WILL	If all transformers fail before L2, the result is negative.	of the the	N/A		

V C	ANNEX V, SYMBOLS TO BE USED FOR THERMAL CUT-OUTS	N/A
-----	--------------------------------------------------	-----

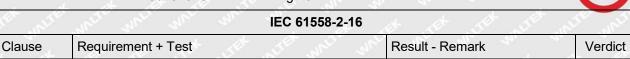
S 18	11004		A 18 1
in the	IEC 61558-2-1	6 At All Str.	and also
Clause	Requirement + Test	Result - Remark	Verdict
	This was the say of	the set set set	alle all
V.2.1.1	Restored by manual operation IEC 489/98	rest outset milited milited a	N/A
V.2.1.2	Restored by disconnection of the supply IEC 490/98	WIN TER WHITER WHITER WH	N/A
V.2.1.3	Thermal link BEC 491/98	ULIER WHITEK WHITEK	N/A
V.2.2	Self-resetting thermal cut-out	ER TER STER OF	N/A

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Nauco	use 11 12								
Clause				11. \					
type/rated output/	rated voltage (V)	sec. voltage (V)	delta Usec (%)	Usec V no-load output	delta Usec no-load output %	further information			
THE WALL	54.0	54.03	0.056%	54.34	+0.57%	100V/50Hz			
Model: GTM961200P1	54.0	54.02	0.037%	54.32	+0.56%	100V/60Hz			
2054-T2	54.0	54.00	0%	54.31	+0.57%	240V/50Hz			
20 -	54.0	54.02	0.037%	54.32	+0.56%	240V/60Hz			
LIFE WILLE W	15.0	14.95	-0.33%	15.28	+2.21%	100V/50Hz			
Model: GTM961200P1	15.0	14.94	-0.4%	15.27	+2.21%	100V/60Hz			
2015-T3	15.0	14.95	-0.33%	15.28	+2.21%	240V/50Hz			
20, 2	15.0	14.94	-0.4%	15.28	+2.28%	240V/60Hz			
	12.0	11.99	-0.08%	12.3	2.59%	100V/50Hz			
Model: GTM961200P1 1112-T3	12.0	12.00	0%	12.3	2.5%	100V/60Hz			
	12.0	12.00	0%	12.3	2.5%	240V/50Hz			
	12.0	12.00	0%	12.3	2.5%	240V/60Hz			
LIFER RLIFE	54.0	54.15	0.28%	54.29	+0.26%	100V/50Hz			
Model: GTM96900P90	54.0	54.15	0.28%	54.29	+0.26%	100V/60Hz			
54-T2	54.0	54.15	0.28%	54.29	+0.26%	240V/50Hz			
	54.0	54.15	0.28%	54.29	+0.26%	240V/60Hz			
SLIE WILLE	15.0	14.84	-1.07%	15.11	+1.82%	100V/50Hz			
Model:	15.0	14.84	-1.07%	15.10	+1.75%	100V/60Hz			
GTM96900P90 15-T3	15.0	14.84	-1.07%	15.11	+1.82%	240V/50Hz			
11. 12.	15.0	14.84	-1.07%	15.11	+1.82%	240V/60Hz			
ier with an	12.0	12.01	0.08%	12.33	2.66%	100V/50Hz			
Model:	12.0	12.00	0%	12.33	2.75%	100V/60Hz			
GTM96900P90 12-T2	12.0	12.00	0%	12.33	2.75%	240V/50Hz			
	12.0	12.01	0.08%	12.33	2.66%	240V/60Hz			
Limits	10 C	no m	±10		±20	d 10 10			

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14	TABLE: Heating Test	J. Lifet	LITER AND	, WILL	ans.	Р
1st	Supply voltage (V):	110V/60	110V/60	264V/50	264V/50	
	Supply Vollage (V)	Hz	Hz	Hz	Hz	_
TIEK M	Ambient (°C)	See be- low	See be- low	See be- low	See be- low	_
Maximu	m measured temperature T of part/at:		Т (°C)		max. temper- ature limit, (°C)
		Label up	Label down	Label up	Label down	ALTEK - WALTER
Model: 0	GTM961200P12054-T2	no m	-7,	- 7	· .	x st
Appliand	e inlet	65.2	65.1	56.4	57.7	70
Varistor	MOV1	69.0	71.6	59.5	62.4	85
Choke w	vinding (LF1)	79.8	81.5	67.4	69.9	130
Х сарас	itor (CX1)	80.9	82.4	67.7	70.2	110
Choke w	vinding (LF2)	91.7	92.7	73.2	75.5	130
PCB under BD1		89.3	90.9	71.8	74.9	130
Choke w	vinding (L1)	97.2	97.3	77.5	79.3	130
Choke w	Choke winding (L2)		96.3	77.7	78.3	130
PCB und	PCB under Q1		92.7	78.2	79.9	130
PCB und	der Q3	93.6	93.3	80.9	82.6	130
E-Cap (C4)	86.4	85.6	80.2	81.5	105
Transfor	mer (T1) core	104.0	103.2	93.4	94.0	110
Transfor	mer (T1) winding	106.3	105.4	94.9	95.9	110
Choke w	rinding (L3)	106.5	106.6	96.7	98.2	130
Y capac	itor (CY1)	87.0	88.7	77.6	81.5	125
Y capac	itor (CY2)	81.9	83.3	74.8	78.6	125
Optocou	pler (U2)	96.9	96.6	87.7	89.4	100
Choke w	rinding (L4)	81.5	81.7	75.1	77.5	130
E-Cap (C41)	88.4	87.6	81.2	82.5	105
PCB nea	ar D53	88.6	88.6	81.1	82.7	130
Output v	vire	66.1	64.9	61.9	63.0	80
Enclosu	re inside above T1	84.1	84.9	72.2	74.6	Ref.
Enclosu	re inside under T1	79.6	76.4	73.1	72.4	Ref.
Enclosu	Enclosure outside above T1		71.5	63.7	66.2	J 80 J
Enclosu	re outside under T1	72.8	68.8	67.5	66.0	80
Support	near pin	62.6	69.3	49.3	49.8	85
Ambient	t lest that the mark white	40.0	40.0	40.0	40.0	A- A
Model: 0	GTM961200P12015-T3	, at	18th 1	IEK JIE	CLITER	WILL WALL
Appliand	e inlet	68.8	68.7	64.1	64.5	70

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THE WITE		IEC 61558-2-1	6			WITE WALT
Clause	Requirement + Test	MITE WALL	Resu	ılt - Remar	k	Verdict
PE wire	The the the the	92.9	94.1	78.7	78.7	105
Varistor M	IOV1	72.9	74.5	62.1	63.3	85
_	nding (LF1)	84.7	86.0	70.9	71.6	130
X capacito		86.1	87.3	71.5	71.8	110
	nding (LF2)	94.2	95.4	75.6	75.6	130
PCB unde		90.5	92.0	73.1	74.1	130
Choke wir	nding (L1)	96.7	97.8	79.6	79.7	130
Choke wir		96.2	97.5	82.4	82.7	130
PCB unde	er Q1	96.9	98.0	81.8	81.8	130
PCB unde	er Q3	94.7	95.7	81.1	81.2	130
E-Cap (C4	4) 1000 1000 1000	98.7	99.9	84.6	84.9	105
Transform	ner (T1) core	104.1	103.9	100.3	100.2	110
Transform	ner (T1) winding	107.3	106.6	101.2	101.3	110
Choke wir	nding (L3)	108.8	108.9	98.7	99.4	130
Y capacito	or (CY1)	90.1	92.2	79.5	81.1	125
Y capacito		97.8	100.2	86.7	90.2	125
Optocoup	ler (U2)	97.8	98.3	92.2	92.9	100
Choke wir	nding (L4)	98.0	99.9	89.0	91.3	130
E-Cap (C4	11)	103.2	104.1	96.2	96.5	105
PCB near	D53	107.9	109.8	98.6	99.7	130
Output wir	re	75.9	76.4	70.3	71.2	80
Enclosure	inside above T1	90.9	92.1	77.6	78.0	Ref.
Enclosure	inside under T1	89.9	91.2	81.4	81.8	Ref.
Enclosure	outside above T1	78.6	78.3	68.3	67.9	80
Enclosure	outside under T1	78.0	79.4	69.8	72.5	80
Support n	ear pin	46.1	46.1	44.8	46.4	85
Ambient	EK LIER RITE MITE W	40.0	40.0	40.0	40.0	. (4 ^t . (
Model: GT	TM961200P11112-T3	A THE THE	. CLIE	INCTED WITH	in the	an an
Appliance	inlet	68.9	68.6	63.8	62.6	70
PE wire	24, 24, 2, 2	85.9	86.6	75.2	74.0	105
Varistor M	IOV1	70.8	73.6	63.4	63.8	85
Choke wir	nding (LF1)	82.4	84.4	73.0	73.1	130
X capacito	or (CX1)	83.1	84.6	72.1	71.3	110
Choke wir	nding (LF2)	90.1	91.3	75.2	74.3	130
PCB unde	er BD1	87.2	90.5	74.0	74.4	130
Choke wir	nding (L1)	99.4	100.1	82.8	81.4	130
Choke wir	nding (L2)	96.3	97.0	87.2	86.3	130
PCB unde	er Q1	93.3	93.8	81.4	80.1	130
PCB unde	er Q3	93.0	93.2	82.3	81.1	130

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IEC 61558-2-16								
Clause	Requirement + Test	A STEEL WALLE	Resi	ult - Remarl	k	Verdict		
E-Cap (C4	Harry Mr. Mr. Mr.	95.2	95.9	84.7	83.4	105		
	er (T1) core	107.6	107.8	104.3	103.0	110		
	er (T1) winding	107.0	107.8	94.8	93.5	110		
Choke win		106.2	108.0	98.3	97.5	130		
Y capacito		89.6	90.5	82.1	81.8	125		
Y capacito		93.7	95.7	88.5	89.5	125		
				- C	2.50			
Optocouple		98.5	99.0	96.3	95.7	100		
Choke win		94.6	95.7	90.5	90.7	130		
E-Cap (C4		103.0	102.5	98.1	97.0	105		
PCB under		104.9	106.0	99.3	99.8	130		
Output wire		79.7	78.6	76.8	75.5	80 Def		
	inside above T1	95.3	83.3	75.6	74.9	Ref.		
	inside under T1	84.3	93.0	90.2	87.3	Ref.		
	outside above T1	78.8	77.5	71.5	73.2	80		
-(0)	outside under T1	76.2	78.6	77.5	78.4	80		
Support ne	ear pin	46.6	46.0	45.9	45.5	85		
Ambient	er m. m. m.	40.0	40.0	40.0	40.0	<u> </u>		
	M96900P9054-T2	12 12 12 1C	-10	311				
Appliance		59.4	57.4	53.7	51.9	70		
Varistor M		66.3	67.2	60.2	60.0	85		
Choke win	ding (LF1)	72.8	72.6	65.0	64.9	130		
X capacito	r (CX1)	75.1	74.7	66.0	65.8	110		
Choke win	ding (LF2)	81.1	80.2	68.6	68.2	130		
PCB under	r BD1	73.2	75.7	63.8	66.4	130		
Choke win	ding (L1)	86.2	84.9	72.7	72.5	130		
Choke win	ding (L2)	86.5	85.7	74.5	74.4	130		
PCB under	r Q1	86.4	85.1	76.3	76.2	130		
PCB under	r Q3	82.0	81.2	74.4	74.6	130		
E-Cap (C4) the site with with	81.2	80.1	73.4	72.7	105		
Transform	er (T1) core	92.5	91.0	84.9	84.8	110		
Transform	er (T1) winding	96.4	94.6	90.5	90.1	110,0		
Choke win	ding (L3)	90.0	89.8	84.5	85.1	130		
Y capacito	r (CY1)	71.9	73.3	68.9	69.6	125		
Y capacito	r (CY2)	75.9	77.3	73.9	74.9	125		
Optocouple	er (U2)	89.6	88.3	84.2	84.2	100		
Choke win	ding (L4)	71.2	72.2	69.8	70.7	130		
E-Cap (C4	1) 1 1 1 1	84.6	83.2	80.5	80.3	105		
PCB near	D53	82.0	81.0	77.7	77.7	130		
Output wire		66.8	67.0	65.4	65.9	80		

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IEC 61558-2-16									
Clause	Requirement + Test	A NITER WALL	Resu	ult - Remar	k	Verdict			
	incide above T4	76.4	76.0	60.4	60.4	Def			
	inside above T1	76.4	76.2	69.1	69.1	Ref.			
	inside under T1	76.4	73.3	72.6	70.2	Ref.			
	outside above T1	67.1	66.3	61.4	61.3	80			
	outside under T1	67.0	64.2	63.9	62.0	80			
Support ne	ear pin	61.7	57.2	59.2	56.5	85			
Ambient	MACCOCODOCAE TO	40.0	40.0	40.0	40.0	TE TO			
7,000	M96900P9015-T3	2000	00.0	07.0	05.0	70			
Appliance	Inlet	68.9	69.2	67.0	65.8	70			
PE wire	0)44	90.8	92.0	80.0	79.9	105			
Varistor M		72.2	72.6	65.4	64.9	85			
30.00	ding (LF1)	83.9	84.7	75.2	74.7	130			
X capacito		83.8	85.0	73.4	73.1	110			
	ding (LF2)	90.2	90.7	76.6	76.1	130			
PCB unde		81.2	82.7	82.3	80.1	130			
Choke win	0 ()	99.6	100.7	73.3	82.2	130			
Choke win		87.5	88.4	75.8	75.8	130			
PCB unde	rQ1 W	81.1	81.7	72.6	72.7	130			
PCB unde	r Q3	81.3	81.7	73.2	73.0	130			
E-Cap (C4		87.1	88.5	79.8	78.6	105			
Transform	er (T1) core	88.9	90.6	81.2	81.2	110			
Transform	er (T1) winding	101.1	102.7	95.3	95.0	110			
Choke win	ding (L3)	89.6	91.7	82.3	82.7	130			
Y capacito	r (CY1)	76.3	79.9	69.9	71.3	125			
Y capacito	r (CY2)	92.5	98.3	86.3	89.3	125			
Optocoupl	er (U2)	92.8	94.7	86.7	87.1	100			
Choke win	ding (L4)	84.1	87.2	79.3	81.0	130			
E-Cap (C4	1)	91.5	92.9	86.3	86.3	105			
PCB near	D53	93.2	94.6	88.1	88.2	130			
Output wire	e the tier with the	68.9	71.3	65.1	67.0	80			
Enclosure	inside above T1	78.3	79.0	69.5	70.2	Ref.			
Enclosure	inside under T1	77.2	79.2	72.1	71.3	Ref.			
Enclosure	outside above T1	70.8	70.5	62.5	69.2	80			
Enclosure	outside under T1	72.3	74.0	66.1	67.3	80			
Support ne	ear pin	70.9	69.2	63.1	65.5	85			
Ambient	t let let till i	40.0	40.0	40.0	40.0	. 			
Model: GT	M96900P9012-T2	a state	At .	SEE S	TET STEE	WILL WIL			
Appliance		58.2	59.2	57.1	54.9	70			
Varistor M		66.2	65.7	61.3	60.2	85			
	ding (LF1)	79.1	78.2	71.9	71.1	130			

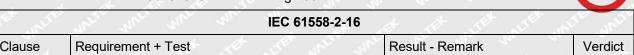
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L. Will	are we we	2,	IEC 6	1558-	2-16	3	*	164	·		CTE IN	ir, are
Clause	Requirement + Test	- CLER	LIER	MILL		and	Resu	ılt - F	Remark	-60,	,	Verdic
X capacito	r (CX1)	- A	2 ^f	80.8	3	79	9.7	7:	2.6	71.	7	110
Choke win	ding (LF2)	mer and	-2	86.	5	84	1.8	7:	5.4	74.	5 🐠	130
PCB unde	r BD1	+ 1		84.4	1 1	80	8.0	7:	3.5	73.	5	130
Choke win	ding (L1)	it with	n.	93.0)	91	.2	8	0.0	79.3	3	130
Choke win	ding (L2)	4 A		93.9	9	92	2.2	8	1.8	81.	1	130
PCB unde	r Q1	JACK J	100	86.3	3	84	1.4	7	7.8	77.4	4.4	130
PCB unde	r Q3		J+	86.	1	84	1.5	7	8.3	77.8	8	130
E-Cap (C4	·) The State State	with wi		93.3	3	91	.5	8	5.2	84.0	6	105
Transform	er (T1) core		_	99.0)	97	7.5	9	1.9	91.3	3	110
Transform	er (T1) winding	riter with	41	108.	1	10	6.8	10	2.3	101.	.5	110
Choke win	ding (L3)	, , ,		99.8	3 <	97	7.9	9:	2.6	92.6	6	130
Y capacito	r (CY1)	IEE OLITE	m	86.	5	83	3.6	8	0.1	80.	1	125
Y capacito	r (CY2)	20.	, 6	94.0) of	90).2	8	8.1	88.2	2	125
Optocoupl	er (U2)	- Liter I		100.	3	98	3.8	9	4.6	94.	1	100
Choke win	ding (L4)	10 0		94.8	3	91	.9	8	9.8	89.8	8	130
E-Cap (C4	1)	JER J		100.	2	99	0.0	9:	5.1	94.4	4	105
PCB unde	r D53	n in		101.	9	_10	0.6	9	7.1	96.6	6	130
Output wir	e	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		79.	7.0	78	3.3	-7	6.6	75.	7	80
Enclosure	inside above T1	1 211		85.3	3	82	2.7	7	6.7	76.	5	Ref.
Enclosure	inside under T1	14 ×6		79.8	3	80	0.3	7	7.7	75.3	3	Ref.
Enclosure	outside above T1			73.	1_	70).9	6	7.1	66.6	6	80
Enclosure	outside under T1	at a	T.E.	70.6	3	70).2	6	8.4	66.8	8	80
Support near pin				67.4	4	63	3.3	6	2.8	62.8	8	85
Ambient			40.0) (40	0.0	4	0.0	40.0	0	- 70,	
Suppleme	ntary information:	We all	- 17). (1)		4.	1		15th	16th	Jet	LIFER
Temperatu	ıre T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°	(C)	R ₂ ((Ω)	T (°C)		Allowed	Insula- tion clas
i m	24, 25, 2	,	.4	F .	(J)	- 20					Lr. 7,	-20

15	TABL	TABLE: SHORT-CIRCUIT AND OVERLOAD PROTECTION						
	ambie	ent temperati	ure (°C)		2	24.6		
type/rated o	output	r-cold Ω	r-warm Ω	temp. °C	ext. encl. °C	support °C	int. + ext. wire	further information
GTM961200 054-T2 / 54.0Vdc, 12	×	onitek onit	ek mitek	123.5	TEK - TE	white whi	. The	und whi

The heating test performed at unit continuous operation.

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15	TABL	E: SHORT-	CIRCUIT AN	D OVERLO	AD PROTE	CTION		Р
;	ambie	ent temperati	ure (°C)		2	24.6		
type/rated ou	utput	r-cold Ω	r-warm Ω	temp. °C	ext. encl. °C	support °C	int. + ext. wire	further information
GTM961200F 015-T3/ 15.0Vdc, 120	.,4	unitex un	TEK WATER	129.9	LIEK - NALI WALI	anrige an	iti <mark>v</mark> anti. Ek iyek	WAL - WA
GTM961200F 112-T3/ 12.0Vdc, 111	(EX	INLIER WILL	y - iek	118.4	MILL)	JEK NITER	W. ATTER	TEK MALTEK
GTM96900P9 4-T2 / 54.0Vdc, 90V	in.	TEX TEX	muli ^{es} mi	118.9	win w	Tet untiet	ALTEK WALT	t united
GTM96900P9 5-T3/ 15.0Vdc, 90V	in.	Whate A	NET TEX	108.4	TEK WILTE	Y WALTER WAS	TEK - UNLTEK	unite ll un
GTM96900P9 2-T2/ 12.0Vdc, 90V	u un	und - un und - und	Miles Notes	151.7	ANUTER .	Whitek-Write	uniter v	et Jet

Note:

- 1. The model of GTM961200P12054-T2 that output overload to 2.82A, the unit protected, T1 winding max. temp.: 118.1°C no hazards.
- 2. The model of GTM961200P12015-T3 that output overload to 10.9A, the unit protected, T1 winding max. temp.: 121.7°C no hazards.
- 3. The model of GTM961200P11112-T3 that output overload to 10.85A, the unit protected, T1 winding max. temp.: 121.7°C no hazards.
- 4. The model of GTM96900P9054-T2 that output overload to 2.1A, the unit protected, T1 winding max. temp.: 118.9°C no hazards.
- 5. The model of GTM96900P9015-T3 that output overload to 7.8A, the unit protected, T1 winding max. temp.: 108.4°C no hazards.
- 6. The model of GTM96900P9012-T2 that output overload to 10.2A, the unit protected, T1 winding max. temp.: 151.7°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 measurement	S	P N
Insulation	resistance R between:	R (MΩ)	Required R (MΩ)
Between	mains poles (primary F1 disconnected)	>100	A 22 5th
Between were cons	primary and enclosure* (All type of enclosure sidered)	>100	7
Between	input and output	>100	5
	primary and secondary of T1 (All source of er were considered)	>100	5 5 5

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IEC 61558-2-16										
Clause	Requirement + Test	Result - Rem	Result - Remark							
	core and secondary of T1 (All source of er were considered)	>100	5	TEX						
	enclosure inside and outside* (All type of energe considered)	>100	7	24 A						

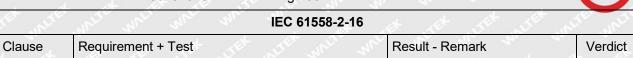
Supplementary information:

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

18.3	TABLE: Dielectric Strength		P
Test volta	age applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Between	mains poles (primary F1 disconnected)	2100 AC	No No
	primary and enclosure* (All type of enclo- e considered)	4200 AC	No No
Between	input and output	4200 AC	No
	primary and secondary of T1 (All source of er were considered)	4200AC	No
	core and secondary of T1(All source of ner were considered)	4200 AC	No
	enclosure inside and outside (All type of envere considered)	4200 AC	No
Suppleme	entary information:		of the the st

ANNEX H	Electr	onic circuit	s fault test	14. 14.		100		- 15 10	P
14, 1	ambient temperature (°C)				25.1			2/2	
et .	Test v	oltage(V)			·	264	1V	st set	LEX
Componer	nt No.	fault	Test voltage	Test time	Fuse N		Fuse current(A)	Result	
BD1	WAL	S-C	264V/ 50Hz	1s	F1,F2	TEN.	On Little Au	Fuse (F1) opendimmediately and ten times, no ha	d repeat
C2	UN.	S-C	264V/ 50Hz	1s	F1,F2	3	0	Fuse (F1) opendimmediately and ten times, no ha	d repeat
Q1 (G-S)		S-C	264V/ 50Hz	10min	F1,F2	uri	0.01	Unit shut down, age, no hazard.	
Q1 (D-S)	VIII.	S-C	264V/ 50Hz	1s	F1,F2		0	Fuse (F1) opendimmediately and ten times, no ha	d repeat
Q1 (D-G)	INLIEK	S-C	264V/ 50Hz	1s	F1,F2		0	Fuse (F1) opendimmediately and ten times, no ha	d repeat

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ANNEX H	Elect	ronic circu	its fault test					Р
Jet J	ambi	ent tempera	ture (°C)		:	25.1	LET SET	LIE
24. 24.	Test	voltage(V)		, st, st.		264V	are me	in. 1
Componen	t No.	fault	Test voltage	Test time	Fuse No	Fuse current(A)	Resul	t
T1 Pin 1-2.	MALTER	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
T1 Pin 5-6.	LIEK .	S-C	264V/ 50Hz	10min	F1,F2	0	Fuse (F1) open immediately an ten times, no ha	d repeat
T1 Pin 9-B.	ex m	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
T1 Pin 10-A	. _{INIT}	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
U1 (pin3-4)	TEX	SC	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
U1 (pin1-2)	î,	SC	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
U1 (pin1)	, 4	ОС	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
U1 (pin3)	la l	ос	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
R12	an!	S-C	264V/ 50Hz	10min	F1,F2	0.514	Unit work norm hazard.	ally, no
D54	LIEK	S-C	264V/ 50Hz	10min	F1,F2	0.514	Unit work norm hazard.	ally, no
C41	et.	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
GT*961200	P serie	es		LEK STEK	STEEL O	ALTE MALTE	weir wer	1/2 1
Output (12V series)	MULT	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
Output (15V series)	MITER	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
Output (54V series)	TEN.	S-C	264V/ 50Hz	10min	F1,F2	0.01	Unit shut down, age, no hazard	
GT*96900P	series		- Alt	LITE OF LITER	WILL	West with	21/2 24	3.
Output (12V series)	un'	Output (12V series)	Output (12V series)	Output (12V series)	Output (12V series)	Output (12V series)	Output (12V ser	ries)
Output (15V series)	NITEX	Output (15V series)	Output (15V series)	Output (15V series)	Output (15V series)	Output (15V series)	Output (15V ser	ries)

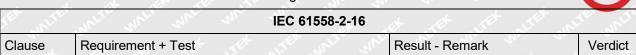
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JEE JULIE	white with with any	IEC 61558-2-16	WILL MILL
Clause	Requirement + Test	Result - Remark	Verdict

ANNEX H	Elect	ronic circu	its fault test					211. 20	Р
Set S	ambi	ent tempera	ture (°C)	7, 7,	:	25.	.1,	LET SET	The same
14. 14.	Test	voltage(V) .		<i></i>		264	4V	are are	<i>y</i>
Componer	nt No.	fault	Test voltage	Test time	Fuse N	0.	Fuse current(A)	Result	
Output (54V series)	MITE	Output (54V series)	Output (54V series)	Output (54V series)	Output (54V series)	+	Output (54V series)	Output (54V seri	es)

20	TAE	BLE: Components	White Mr.	40 40		4	χP
Object/part N	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)		rk(s) of formity1)
PCB	77°	WALEX ELECTRONIC (WUXI) CO LTD	T2, T2A, T2B T4	Min.V-0, Min. 130℃	UL 796	UL E	154355
-Alternative		GUANGDONG HETONG TECHNOLOGY CO LTD	CEM1, 2V0, FR4	Min.V-0, Min. 130℃	UL 796	UL E	243157
-Alternative		CHEERFUL PLASTIC ELECTRONIC PRODUCTS	02, 03, 03A	Min.V-0, Min. 130℃	UL 796	UL E	199724
-Alternative		DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2	Min.V-0, Min. 130℃	UL 796	UL E251754	
-Alternative		DAFENG AREX ELECTRONICS TECHNOLOGY CO LTD	02V0, 03V0, 04V0	Min.V-0, Min. 130℃	UL 796	UL E186016	
-Alternative	-[][6	KUOTIANG ENT LTD	C-2, C-2A	Min.V-0, Min. 130°C	UL 796	UL E	227299
-Alternative		SHENZHEN TONGCHUANGXI N ELECTRONICS CO LTD	TCX	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796 UL E250		250336
PR		YUANMAN PRINTED CIRCUIT CO LTD	1V0	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	74757
-Alternative	UNE TER	SUZHOU XINKE ELECTRONICS CO LTD	XK-2, XK-3	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E	231590

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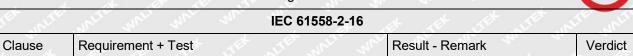
20	TAE	BLE: Components				"Р
Object/part	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	in.	JIANGSU DIFEIDA ELECTRONICS CO LTD	DFD-1	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E213009
-Alternative	MVI. MEK	SHANGHAI H- FAST ELECTRONIC CO LTD	211001, 211002	Min. 1,6 mm thickness, min. V- 0, 130°C	UL 796	UL E337862
-Alternative	į, t	Interchangeable	Interchangea- ble	min. V-0, 130°C	UL 796	UL
Enclosure	in.	SABIC INNOVATIVE PLASTICS B V	HF500R	Min. V-0, Min. thickness: 1.5mm, 125°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative	nlie z¥	SABIC INNOVATIVE PLASTICS US L L C	940	Min. V-0, Min. thickness: 2.0mm, 120°C	UL 94 UL 746	Tested with appliance UL E121562
-Alternative		SABIC JAPAN L L C	945(GG)	Min. V-0, Min. thickness: 2.0mm, 120°C	UL 94 UL 746	Tested with appliance UL E207780
-Alternative (For GT*96900P ries)	se-	SABIC INNOVATIVE PLASTICS B V	CX7211	ABS, Min. V-0, Min. thickness: 2.0mm, 90°C	UL 94 UL 746	Tested with appliance UL E45329
-Alternative (For GT*96900P ries)	se-	TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	PC/ABS, Min. V- 0, Min. thickness: 2.0mm, 115°C	UL 94 UL 746	Tested with appliance UL E50075
Appliance ir (CN1 Class units(C6 typ	l)	Zhejiang LECI Electronics Co., Ltd.	DB-6	2.5A, 250Vac	IEC60320-1	VDE 40032465
-Alternative	المارية	Rich Bay Co., Ltd.	R-30790	2.5A, 250Vac	IEC60320-1	VDE 40030381
-Alternative	CER	Sun Fair Electric Wire & Cable (HK) Co. Ltd.	S-02	2.5A, 250Vac	IEC60320-1	VDE 40034448
-Alternative	,y	TECX-UNIONS Technology Corporation	TU-333	2.5A, 250Vac	IEC60320-1	ENEC-00633
-Alternative	MUF	Rong Feng Industrial Co., Ltd.	RF- 190	2.5A, 250Vac	IEC/EN 60320- 1	VDE 40030379
-Alternative	NIE	Inalways Corpora- tion	0724	2.5A, 250Vac	IEC60320-1	ENEC/FI 2010080

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	A 10 20	(1)		
TER WITER		IEC 61558-2-16		LIE MITE
Clause	Requirement + Test	EX SUTER SUPLY WILL	Result - Remark	Verdict

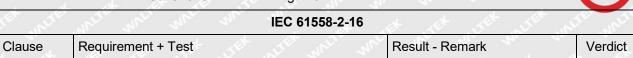
20 T	ABLE: Components	et jet o	LIE WALL WALL	Mrr. Mr.	7 P
Object/part No	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) o
-Alternative	Zhe Jiang BeiErjia	ST-A04-002	2.5A, 250Vac	IEC60320-1	VDE 40016045
Appliance inle (CN1 Class II) units (C8 type	Electronics Co.,	DB-8	2.5A, 250Vac	IEC60320-1	VDE 40032028
-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 Indus- trialCo., Ltd.	RF-180	2.5A, 250Vac	IEC60320-1	VDE 40030168
-Alternative	Inalways Corpora- tion	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 inle CN1 Class I units (C14 typ	Electronics Co.,	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 Indus- trial 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 0064
-Alternative	Inalways Corpora- tion	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 inle CN1 Class II units (C18 typ	trial Co.,Ltd	SS-120	10A,250V	IEC/EN 60320-1	VDE 40028101
-Alternative	HCR ELECTRONICS CO., LTD	SK05	10A,250V	IEC/EN 60320-1	CB:NO6924

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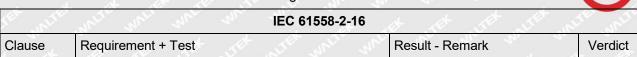
20 TA	ABLE: Components	et let o	LIE WALLE WALL	Mr. Mr.	Р
Object/part No	. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	Rich Bay Co., Ltd.	R-301SN	10A,250V	IEC/EN 60320-1	VDE 40030228
Insulating tape wrapping around the heatsink (Use insulatior tape will not use Insulating tube)	ELECTRICAL MARKETS DIV (EMD)	1350F- 1 1350T- 1	Min. 130°C	IEC/EN 62368- 1 UL 510	UL E17385
Alt.	BONDTEC PACIFIC CO LTD	370S	Min. 130°C	IEC/EN 62368- 1 UL 510	UL E175868
Alt.	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT	Min. 130°C	IEC/EN 62368- 1 UL 510	UL E165111
Alt.	JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A	Min. 130°C	IEC/EN 62368- 1 UL 510	UL E246950
Alt.	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	Min. 130°C	IEC/EN 62368- 1 UL 510	UL E246820
Earthing wire (for Class I on- ly)	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E237831
-Alternative	ZHUANG SHAN CHUAN ELECTRICAL PRODUCTS (KUNSHAN) CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E333601
-Alternative	DONGGUAN CHUANTAI WIRE PRODUCTS CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E315628
-Alternative	YONG HAO ELECTRICAL INDUSTRY CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E240426

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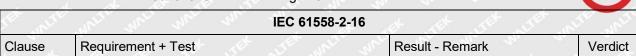
20 TA	BLE: Components	et set o	LIE WALTE WALTE	MUT. MV	Р
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	DONGGUAN GUNEETAL WIRE & CABLE CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E204204
-Alternative	SHENG YU ENTERPRISE CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E219726
-Alternative	KUNSHAN XINGHONGMENG ELECTRONIC CO LTD	1015, 1007, 1185	Min. 18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E315421
-Alternative	SUZHOU YEMAO ELECTRONIC CO LTD	1015, 1007, 1185	Min.18AWG, Min. 300V, Min. 80°C	UL 758	Tested with appliance UL E353532
Insulating Tube used on heatsink and ground wire (Heatsink using insulating tube will not use insulation tape)	WOER HEAT- SHRINKABLE MATERIAL CO	RSFR RSFR-H RSFR-HPF	600V, 125°C	UL 224	Tested within appliance UL E203950
-Alternative	QIFURUI ELECTRONICS CO	QFR-h	600V, 125°C	UL 224	Tested within appliance UL E225897
-Alternative	DONGGUAN SALIPT CO LTD	SALIPT S- 901-300 SALIPT S- 901-600	Min. 300V, 125°C	UL 224	Tested within appliance UL E209436
-Alternative	GUANGZHOU KAIHENG ENTERPRISE GROUP	K-2 (+) K-2 (CB)	Min. 300V, 125°C	UL 224	Tested within appliance UL E214175
-Alternative	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-HFT	Min. 300V, 125°C	UL 224	Tested within appliance UL E180908
Fuse (F1, F2)	Ever Island Electric Co., Ltd. And Wal- ter Electric	2010	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40018781 UL E220181
-Alternative	Conquer Electronics Co., Ltd.	MST	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40017118 UL E82636

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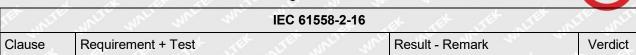
20	TAE	BLE: Components	Et JET N	The WALL WALL	The tipe.	Р
Object/part I	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	wn Lir	Bel Fuse Ltd.	RST-Serie(s)	T3.15A, 250V	IEC 60127- 1 IEC 60127-3 UL 248- 1 UL 248- 14	VDE 40011144 UL E20624
-Alternative	TEX	Cooper Bussmann LLC	SS-5	T3.15A, 250V	IEC 60127-1 IEC 60127-3 UL 248-1 UL 248-14	VDE 40015513 UL E19180
-Alternative	, t , t	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
Varistor (MOV1) (op- tional)	TO NITE CEN	Thinking Electronic Industrial Co., Ltd.	TVR10471K, TVR14471K	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	TLEX TLEX	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	nu,	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	WILL VER	Best Bright 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 VDE 40027827
-Alternative	اری نامان	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

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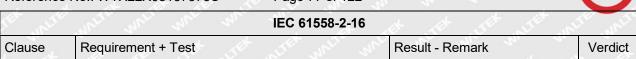
20 T	ABLE: Components				Р
Object/part N	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	Joyin Co., Ltd.	10N471K 14N471K	Max. Continuous voltage: min 300Vac(rms), 85°C, The coating is V-0	IEC 61051- 1 IEC 61051-2 IEC 61051-2-2	VDE 005937
Choke (LF1) (optional)	Glob- Tek/ZhongTon g/HEJIA/BOAM/EN G	LF001	130°C	IEC 61558-1 IEC 61558-2-16	Test with equipment
Choke (LF2) (optional)	Glob- Tek/ZhongTon g/HEJIA/BOAM/EN G	LF026	130°C	IEC 61558-1 IEC 61558-2-16	Test with equipment
Choke (L1) (o tional)	p- Glob- Tek/ZhongTon g/HEJIA/BOAM/EN G	LF003	130°C	IEC 61558-1 IEC 61558-2-16	Test with equipment
Choke (L2) (o tional) (For GT*961200P series)	p- Glob- Tek/ZhongTon g/HEJIA/BOAM/EN G	LF029	130°C	IEC 61558-1 IEC 61558-2-16	Test with equipment
Choke (L2) (o tional) (For GT*96900P series)	Tek/ZhongTon	LF028	130°C	IEC 61558-1 IEC 61558-2-16	Test with equipment
X-Capacitor (CX1) (optional	Cheng Tung al) Industrial Co., Ltd.	СТХ	Min. 300VAC, 110°C, X1 or X2 Max. 0.22μF	IEC 60950- 1 UL 60384- 14 UL 1414	Tested with appliance UL E193049
-Alternative	Tenta Electric Industrial Co. Ltd.	MEX	Min. 250VAC, 40/100/21/B, X1 or X2 Max. 0.22µF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 119119 UL E222911
-Alternative	Joey Electronics (Dong Guan) Co., Ltd.	MPX	Min. 250VAC, 40/105/21/B, X1 or X2 Max. 0.22µF	05/21/B, X1	
-Alternative	Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 40015608 UL E183780
-Alternative	Yuon Yu Electronics Co. Ltd.	MPX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 40032392 UL E200119

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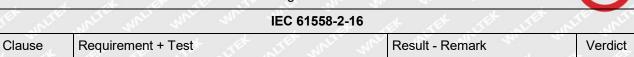
20 1	TABLE: Components	TEN TEN C	LIE WALTE WALL	THE THE	Р
Object/part N	o. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative	Sinhua Electronics (Huzhou) Co., Ltd.	MPX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22µF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 40014686 UL E237560
-Alternative	Jiangsu Xinghua Huayu Electronics Co., Ltd.	MPX - Series	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22μF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 40022417 UL E311166
-Alternative	Dain Electronics Co., Ltd.	MEX, MPX, NPX	Min. 250VAC, 40/100/21/C, X1 or X2 Max. 0.22μF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 40018798 UL E147776
-Alternative	Shenzhen Jinghao Capacitor Co ., Ltd.	CBB62B	Min. 250VAC, 40/110/56/B, X1 or X2 Max. 0.22µF	IEC/EN 60384- 14 UL 60384- 14 UL 1414	VDE 40018690 UL E252286
-Alternative	Foshan Shunde Chuang Ge Electronic Industri- al Co., Ltd.	MKP-X2	Min. 250VAC, 40/105/21/Β, Χ2 Max. 0.22μF	IEC/EN 60384- 14	VDE 40008922
-Alternative	Winday Electronic Industrial Co., Ltd.	MPX series	Min. 250VAC, 40/100/21/C, X2 Max. 0.22μF	IEC/EN 60384- 14	VDE 40018071
Resistor Be- tween (R1,R2	Interchangeable	Interchangea- ble	Max. 2MΩ, 1/4W	IEC/EN 62368- 1	Tested with appliance
Bleeder resistance (R1A, R2A)	Interchangeable	Interchangea- ble	Max. 4.7MΩ, 1/4W	IEC/EN 62368- 1	Tested with appliance
Y-Capacitor (CY1,CY2)	TDK CORPORATION	CD	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40029780 UL E37861
-Alternative	Success Electronics Co., Ltd.	SE	Max.2200pF 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.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40037221 VDE 40020001 UL E114280

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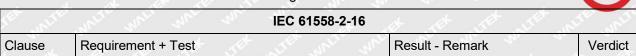
20	TAE	BLE: Components				Р	
Object/part N	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)	
-Alternative		Murata Mfg. Co., Ltd.	KX WY	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40002831 UL E37921	
-Alternative	Jet H	Walsin Technology Corp.	AH	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40001804 UL E146544	
-Alternative	in.	JYA-NAY Co., Ltd.	JN unifer waite	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	TUV 69242987 UL E201384	
-Alternative	nije Jev	Haohua Electronic CT 7	CT 7	Max.2200pF 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 let will	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 137027 UL E187963	
-Alternative	TLER TLER	Jerro Electronics Corp.	JX-series	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40032158 UL E333001	
-Alternative	- 17 - 14	WELSON INDUSTRIAL CO LT D	WD	Max.2200pF Min 250Vac Min.Y1 Min 125°C	IEC/EN 60384- 14 UL 60384-14 UL 1414	VDE 40016157	
Optocoupler (U2)	IN LITE	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	
-Alternative	ال الت التر	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	

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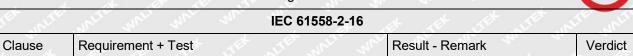
20	TAE	BLE: Components	Et JEH N	It's White White	Mrs. Mrs.	71	Р
Object/part N	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)		rk(s) of formity1)
-Alternative		Fairchild Semicon- ductor Pte Ltd OD817E		Isulation voltage: 850V; Transient overvoltage; 6000V; CTI175; Int.Cr/Ext.Cr: ≥7.0/7.0mm; 30/110/21;	IEC/EN 60747	VDE 40026857	
-Alternative	7 TE	Toshiba Electronic Devices & Storage Corpo- ration	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 4001 UL E	5248 113898
-Alternative		Sharp Corporation Electronic Compo- nents 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 4000	8087
-Alternative	2,7	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 4000	7240
Transformer (T1)	4 7 J	GlobTek / ENG / BOAM / HAOPUWEI	See attachment for details	Class B	IEC 61558-1 IEC 61558-2-16	Test equip	with oment
Magnet wire	е	PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWN/U	MW28-C, 130oC	IEC/EN 60601-1 UL 1446	applia	ed with ance 201757
-Alternative		PACIFIC ELECTRIC WIRE & CABLE (SHENZHEN) CO LTD	UEWS/U	MW75-C, 130oC	IEC/EN 60601-1 UL 1446	applia	ed with ance 201757

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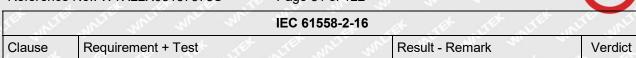
20	TAE	BLE: Components				Р
Object/part	No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alternative		JUNG SHING WIRE CO LTD	UEW-4	MW75C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E174837
-Alternative	WALL VIEK	JUNG SHING WIRE CO LTD	UEY-2	MW28-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E174837
-Alternative	- N	JIANGSU HONGLIU MAGNET WIRE TECHNOLOGY CO LTD	2UEW/130	MW75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E335065
-Alternative	اريان الارتانية	CHANGZHOU DAYANG WIRE & CABLE CO LTD	2UEW/130	MW75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E158909
-Alternative	TEK.	WUXI JUFENG COMPOUND LINE CO LTD	2UEWB	MW75#, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E206882
-Alternative		JIANGSU DARTONG M & E CO LTD	UEW	MW 75-C, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E237377
-Alternative	an Ex	SHANDONG SAINT ELECTRIC CO LTD	UEW/130	MW75#, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E194410
-Alternative	Elt 1	ZHEJIANG LANGLI ELECTRIC EQUIPMENTS CO LTD	UEW	MW 79#, 130oC	IEC/EN 60601-1 UL 1446	Tested with appliance UL E222214
- Bobbin	WY LIE	Changchun Plas- tics	T375J T375HF	Phenolic,V- 0.150°C,min. thickness 0.45mm	UL94	UL E59481
-Alternative	TEK	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

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20	TABLE: Components				20,	Р	
Object/part N	lo. Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) conformity		
Insulation tape	3M	1350F-1, 1350T-1, 44	130°C	UL 510	ULE1	7385	
-Alternative	Bondtec	370S	130°C	UL 510	UL E	175868	
-Alternative	YAHUA	PZ CT WF	130°C	UL 510	UL E	165111	
-Alternative	JINGJIANG JINGYI	JY25-A	130°C	UL 510	UL E	246950	
-Alternative	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX	130°C	UL 510	UL E	246820	
Triple windi	ng Great Leoflon	TRW(B)	130℃	UL 1446	100000	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°C	UL 1446	VDE 4002 UL E	3473 315265	
-Alternative	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TIW	130℃	UL 1446	VDE 4003 UL E	7495 357999	
-Alternative	SHENZHEN JIUDING NEW MATERIAL CO LTD	DTIW-B	130℃	UL 1446	VDE 4003 UL E	7495 357999	
-PTFE tubing	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	600V, 200°C	UL 224	applia	ed with ance 203950	

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20	TAE	TABLE: Components				, P
Object/part	No.	Manufacturer/ trademark	Type/model	Type/model Technical data	Standard (Edition / year)	Mark(s) of conformity1)
-Alt. use	- w	CHANGYUAN ELECTRONICS (SHENZHEN) CO LTD	CB-TT-T / CB- TT-S	Min. 300V, 200°C	UL 224	Tested with appliance UL E180908
Output cord	on Liek Ek	KUNSHAN NEW ZHICHENG ELECTRONICS TECHNOLOGIES CO LTD	1185, 2464, 2468, 1015	Min. 20AWG, min. 300Vac, min. 80°C	UL 758	UL E237831
-Alternative	1	Interchangeable	Interchange- able	Min.24AWG, Min.300V, 80°C or better	UL 758	UL

Supplementary information: N/A

Product Model	Voltage range	Transformer model
	12-13.4V	TF047
Marie Marie Marie Contraction	13.5-14.9V	TF075
	15-16.9V	TF048
KEEL A / AR	17-18.9V	TF076
14 14 14	19-21.3V	TF072
GT*961200P series and	21.4-23.9V	TF077
GT*96900P series	24-27.4V	TF049
A A A A A	27.5-31.4V	TF078
write while while we	31.5-36V	TF073
73, 7	36.1-41.9V	TF079
THE THE NITE MIT	42-48V	TF050
Ver My My	48.1-54V	TF074

26	TABLE:	Working voltage meas	surement.	F THE STEEL WITE MALE SPLE
Location	at a	RMS voltage (V)	Peak voltage (V)	Comments
T1 Pin 1 to	pin A	238	524	LIER MITER MITE MALL MALL
T1 Pin 2 to	pin A	128	214	
T1 Pin 5 to	pin A	176	362	VIEW WITE WALL MALL WALL OF
T1 Pin 6 to	pin A	205	250	the state of the s
T1 Pin 1 to	pin B	268	560	Max. RMS voltage , Max. Peak voltage
T1 Pin 2 to	pin B	170	300	at the life state state
T1 Pin 5 to	pin B	164	345	WILL MILL MALL MAR MAR

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	+		Fage 62 01 122	30.						
IEC 61558-2-16										
Clause	Requirement	+ Test		Result - Remark	Verdict					
- 100	min our	74. 74. 1		TEN TEN TEN TEN	Will Mills					
T1 Pin 6 to	pin B	199	372	24 M. M.						
T1 Pin 1 to	pin 7,8,9	223	432	of the set set	alter plice					
T1 Pin 2 to	pin 7,8,9	165	348	mer mer me n						
T1 Pin 5 to	pin 7,8,9	172	358	LET SET STEET ON	LEE WILLEY WA					
T1 Pin 6 to	pin 7,8,9	171	361	me me me						
CY1 & CY2	2 milit jun	218	416	TEN LIEN SLIEN SKITE	anith white					
U1 Pin 1 to	Pin 3	196	376	in the the	The st					
U1 Pin 1 to	Pin 4	105	226	Ex liter writer writer	White White					
U1 Pin 2 to	Pin 3	195	360	111 211 2	A 18					
U1 Pin 2 to	Pin 4	148	244	TER STEE WITE ON	in me m					

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: cr	eepage dista	ances and cl	earances a	and distance	es through	insulation	Р
Insulation		Required Clearar		ance	ance Creepage			ti
		Insulation	Measured (mm)	Required (mm)	Measured (mm)	Required (mm)	Measured (mm)	Required (mm)
L & N trace fuse	before	BI	3.6	2.4	3.6	2.5	21 <u>1</u>	√ξβ+ √β 30 - 30
Two termina	als of fuse	BI	2.9	2.4	2.9	2.5	anii- an	40
Between pri circuits to P terminal		BI	6.2	2.4	6.2	2.5	ALTEK WALK	y whiteh
CY1 primary	y pin to	un Bl un	5.4	2.4	5.4	2.5	EK - ITEK	Mrites M
CY2 primary	y pin to	NITE BI	4.4	2.4	4.4	2.5	- Test	ALTEK ONE
Live parts to enclosure p		RI	8.0	4.6	8.0	5.5	211 2	et de
Live parts to		RI	6.9	4.6	6.9	5.5	mer me	, m
Primary circ secondary of (PCB trace U2)	ciruits	w RI w	8.0	4.6	8.0	5.5	TER WITER	wn ⁱ lles. writes
Primary circ secondary of (PCB trace	circuits	THE RI	10.0	4.6	10.0	5.5	MULTER OUT	LIEK WAL
Transforme winding to s winding		RI	11.0	4.6	11.0	5.5	ALTEK WAL	ek whitek
Transforme	r primary	RI	9.5	4.6	9.5	5.5	J J.	4



IEK NITER	MILIER MILIER WILLER	IEC 61558-2-16	et set set se	A COLINIA
Clause	Requirement + Test	ER WILL MULTER AND	Result - Remark	Verdict

winding to core

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.

27.1 TABLE: BALL-PRESSURE TEST FOR ENCLOSURE					
Material	Z. Z. I	emperature (°C)	Result (mm)	Comments	20
JEK NITER MITER		ric with our	7 - 1 A	18 18 5B	· LIE
Remark:		at at let	OLITER MALTER MALTER	me me m	1,,

27.3	TABLE: GLOW-WIRE TEST FOR ENCLOSURE					
Material	Temperature (°C)	Result (mm)	Comments			
- m	24 24 - 7 St	TER STEE WILL WALL	The same of the			
Remark:	THE OUTE WILL WALL WA	7, 7, 7	. At Alt Alt Alt			

27.1	TABLE: BALL-PRESSURE TEST FOR INSULATION MATERIAL RETAINING CURRENT CARRYING PART				P
Material		Temperature (°C)	Result (mm)	Comments	
T1 bobbin		125	1.1	See table 20	
РСВ		125	0.9	See table 20	
Appliance inl	et	125	1.2	See table 20	

27.3		OW-WIRE TEST FOR INSULATION MATERIAL RETAINING CARRYING PART					
Material		Temperature (°C)	Result (mm)	Comments	year.		
PCB	et antiet an	750 / 850	No flame / No flame	See table 20	s ^{ee} .		
T1 bobbin		650 / 750	No flame / No flame	See table 20			
Output so	cket material	850	No flame	See table 20			
Appliance inlet (CN1 Class I)		750	No flame	See table 20			
Appliance inlet (CN1 Class II)		750	No flame	See table 20	The state of the s		
Remark: -	70, 7	· *	LET JET JET WITE	THE WALL AN	7		

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

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

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	
CIER SLIER WILL	were were we	The s	4	at at	TER STEEL ON
. 2, 2,	1 1 1	- Let N	ie and	in min	21, 21, 25

26.2 TEST B	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION							N/A
		h three specially prepa or impregnation (P1)	ared specimen	s with				
cycles 2 x working betwo	g voltage een	68 h at the temperature acc. Cl. 14 (min. 85 °C)	1 hour 25 °C	2 hc 0 °		1 hour 25 °C		
	J.Ł	LET LET JET	alite wal	Me	7/1			
The state of	aren a	r 240 24	, , , , , , , , , , , , , , , , , , ,		Ļ ,	er sterr	JEE KIT	are.

26.2 TEST C		TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION					N/A	
		h three specially prepa only dti is required)	ared specimen	s with				
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 hc 0 °		1 hour 25 °C		•
unit w	re in	the text text	LITE ANLICH	MULTER	JUN-IF	WITE WA	ie valie	on L

Annex U	U.5.1 THERMAL ENDURANCE TEST
Type ref.	AN THE THE THE STEE STEE SHITE MILL MALL MALL
Rated PRI-Voltage	THE LITER MITTER WALL WAS AND THE THE THE
Rated SEC- Voltage	A LEA THEY WITTER MULTER MULT MULTER MULTER MULTER MULTER MULTER MULTER MULTER MULTER MULTER
Material of Winding	THE THE STATE OF THE THE STATE OF THE SHILL STATE O
Material of bobbin	THE LIFE MILE MILE WILL WILL MILE WILL WILL WILL WILL WILL WILL WILL W
Material of resin	out of the little stiff on the suntil out of
Material of potting	LIET STIFET WALL WALL WIT WIT WITH THE THE THE THE THE THE THE THE THE T
Material of foil	the feet that a the matter white white white white white
Components re- moved for test	EXMILIES WILL WILL WILL THE TEXT TEXT STEET WITH WILLER WATER
tw	THE STREET WALL WALL THE

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1 (010101100	110.1.17.17.1227.100.107.07.00	1 ago 50 51 122		
LIER WITE	white many many many	IEC 61558-2-16	et let jet sj	EL WILL MAIN
Clause	Requirement + Test	NITER WALL WAL	Result - Remark	Verdict

26.2 TEST C	TABLE					ES A	ND CL	EARA	NCES	AND	DISTA	NCE	S	* .	N/A
	Test wi					ed spe	cimen	s with							
cycles 2 x working betwe pri / s	ı voltage en		68 h at the temperature acc. Cl. 14 (min. 85 °C)			1 hour 2 hour 25 °C 0 °C		1 hour 25 °C							
S	J. J.	16th	A CO	٠ _ز	Carrent Co	T. C.	are.	'm	4		·0,			L	J.
Objective te	st dura-		nn.	70°	- 4°	EK .	ALTEK.	MALTE	y with	EK SI	NUTER.	write	uni	, J	
Theoretical temperature		'JI	Ϋ́,	ilk.	"EX		SEX II	LIEK	MLTE	المرادة	ing on	ITEK.	MALTE	white	211
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	Willer .	Very	Mer	n,					4	JEK.	164	5	,	JET .	Crite.
After 4 h – F	₹w	<i></i>	,et	_<	۶.	Sept.	MITE	MILL	w		16	24.	10		
After 4 h – v			V.	Who.	711		TEK	NITER	MALT	* "IL	75. P	ALTER	WILL	'un	5° ,
After 4 h - o temperature		an'		A	m		ek .	5E			, and	CENT S	N.LTEP	WALTE	in.
After 24 h –	Rw				10	110							et.	AL.	
After 24 h – ing tempera		JU TEK	, LTE	٠. ١	et s	ALTE!	WALTE	rur.	16. 7.	NLT V	MULT	'un	, j		ur Et
After 24 h - temperature			TEX.	70	ران م	Cart .	MUEK	MALTE	'An'i	CEE 7	neter	Met.	Juli	-21	V.
Final test pe (days)	eriod	11/2	r . St	TEK SUL	The State	ري. ع	JEK N	LIFE	MALTE	in	7 EK - W	LT ELECT	MILTE	wit	, 4
Output volta (11.1) unde		wi	, 'm		2.k	10.	ب کند	et.	NITER	MITE	t with	17) Ek	NITEK.	UNLTE	WAL
Insulating resistance	onlier v	Write.	unti	241	0.	"EX	70) - (E)		CENT .	JEX	MLTEN	نامن	iek M	STEK.	MITE
High voltage (35% of the in Table 8.a	values	JEK.	NALTER LV	whi.	ان ان	er er	WILEY VILEY	WITE WITE	. wi	*/ } }	LIEK V	INLTEN	MULT	n,	LIEK

Annex U	U.5.2 The use of an other constant S other than 4500 in tw tests Test1:10 days
Type ref.	WITH THE THE STEEL STEEL STEEL STEEL WHITE WALLS WHEN
Rated PRI-Voltage	LIER SLIER WILL WILL WILL WILL WILL WILL SEE THE
Rated SEC- Voltage	EX TEX TEX MUTEX MUTEX MUTE MUTE MUTE MUTE MUTE MUTE MUTE MUTE

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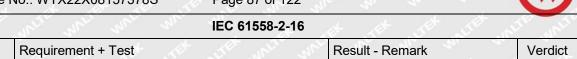
all self	TIP NICE IN	IEC 61558-2-16	1 1 1 1 1	<i>y</i> 30
Clause	Requirement + Test	et 170 July 110	Result - Remark	Verdict

	186	10)	- 2777A	1800				.4-		165				W.
Material of Winding	,t	. J. W		٠,	Et	NLTER	JOINT	" in	,	n.	m	20	, ,	
Material of bobbin		Ver.	Mr.	In.		36	J.Ł		Ļ	LEK.	JEH	250	·	16. 9
Material of resin		et -	1 Et	(TE	5	TER I	10,0	Mer	-2n	7/		20,		
Material of potting	110	, 'n'		411.	10,		+	7.8×		٠ .ز	SEE .	LIFER	Metre	(Mrs.
Material of foil	46	٠ .	Et .	LIER	WITE	11/2	, 1	10	111.	20,				
Components re- moved for test	il.	10°			JEK	NALTE	, uni	ZEK W	NIEK	WILLE	Jun's	ie 'n		Mer
tw	<i>.</i> .	Mr.	2/1/2	2/1		`.\	, é	٠ ,	EF	TEN	LUE"	نام. ا	(F .1	The .
S	,-	1et	(1 ¹)	کی ۔	. "	No.	Mr.	me	-71		24			J.
Objective test duration (days)	11/1		JEK JEK	ZEX.		TEX OF	J.T.E.W.	MITE	Whi	E.K. 211	LIFER.	MALTER	WILL	, un
Theoretical test temperature	MILE	an	· .	ne.	764		et .	Liek	MITE	L NISLEY	الۍ کښا	LITER V	in Liter	MILE
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	Υ,	W.	Will	2/1/2	61 18				,	, et	464	ď	9	THE .
After 4 h – Rw	12	, t	.e.t	40		TE.	NET	Men	JI.			24.	500	,
After 4 h – winding temperature	l ju		A	m.	~_ .4	<i>*</i>	5EV	,di-		, NA	SEP 1	NITER	WALTE	MA
After 4 h - oven temperature	al.	14	1		- E.A.		, I	de la		C. L.	4	I EH W	LIFER	WALTER
After 24 h – Rw	Jet	NITE.	171	()	W.	7115	20.	3		7		Ų.	e st	16th
After 24 h – wind- ing temperature		TEX.	J. Life	, JC1	, Cort	NITER	MALIF	, uni	7	NITE .	Mil	MUE	- 1	, .
After 24 h - oven temperature	11	t	EK.	. TE	د ،	TEK	LITER	WALTE!	in	ZER W	ite.	MULTER	mi	711
Final test period (days)	wi	, 2n		Ch.	-U/4		EH .	NITEK.	JALTE	k Whi	[]Y- []Y-	NITER.	METE	writ
Output voltage (11.1) under load	In Life	mes	-21/		7 E.k 211.	(d)		et ,	CLES.	MITEN	whi	iek m	JEK.	MITER
Insulating re-	JET.	MALTER	المالا	'E W	×	n, Th	VIII.	ر اد	<i>*</i>	LIEK	OLTE	الماران	en. Tr	ITEK V
High voltage test (35% of the values in Table 8.a	711 ix	TLEK A	ALTER J. St.	UNL!	W.	Elt.	JEK Jek	WIN.	اله تاران	ek Vin	J.E.F.	MULTER	whit	ek W

Annex U	U.5.2 The use of an other constant S other than 4500 in tw tests Test2:120 days
Type ref.	AND THE STATE OF THE STATE STATE WITH WHITE WHITE
Rated PRI-Voltage	EX THE STIFF WHITE WALL WAS AND THE

Clause

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	V.	W	211.	1,		2		4	1	10	- 4		<u> </u>	
Rated SEC- Voltage	E.	NLTEX-	MLIF	* WALT	Ell 1	MITE	MULL	'W	,	int.	-21/L-	un. Le	t ,	
Material of Winding			· ,+		ļ.,	et.	RUTER	METER	. ur	(T) (J)	100	216	in	11
Material of bobbin	100	TE . 11		Mr.	Me			<u> </u>		(j t	JEK	156	ن. ن
Material of resin		L .	٤	264	36	نی ا		METE.	aher.	ans	, J		$z_{h_{-}}$	-21,
Material of potting	NET V	Wei	ای		er.			×	jet-	16°		set .	ITEK.	wite
Material of foil	.+	16		et .	JES	MITE	" Mrs	, _U	<u> </u>	Me	100	2,,		- <u>- 4 - </u>
Components re- moved for test		MUST	nu.	- 711	, <u>, , , , , , , , , , , , , , , , , , </u>	The Park	OLTE	المارية	E#	ALTEK.	NNLTE'	MUT	- JI	Liter .
tw	اله		W.C.	Mer	-2,		2.			.+	16th	JE#		Care Co
S		.+	الخار ا	16th	ن.		UE.	Wille	we	, m	· .	en.	10,	20
Objective test duration (days)	WILL	211	٧ , د	in.	TEN.		et "	LTEX.	JALTE!	L MALT	ik ik	LIEN	INLTER	MALE
Theoretical test temperature	INLIE E	WILL	m		ne.	- OII - EK			TEX	NLTEK	.JNLT	est our	ITEK 1	MITER
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	1.0	97		aria	100			-10.			J.L	LEX.		٠
After 4 h – Rw	AV		A	Le l	ď	j.	5E .			(nn)	3		ur.	in
After 4 h – winding temperature	<i>1</i> 1/2	4		77	AIL.		į.	3 E.		Jour .	t Mil	LEIK W	LITER	WALTE
After 4 h - oven temperature	LIEK		Whi	16	4 7		7/11				, LITE		er	
After 24 h – Rw	e¥	TEX	JJE	نى :	Ϋ́ς	N.C.	ant.	n,	7		20.	,		e t
After 24 h – wind- ing temperature	7	er Er	LEK M	T.E	7.	5EK - 17	LIEN	MITE	in	iek W	J. E.	MILIE	mi	, "u
After 24 h - oven temperature	wh		÷	4. 4.	ال المالية	بر الاستار	est a	NITEK.	MLTE	k Whi	21) Ek	LITER .	MITE	WALT
Final test period (days)	MLIFE	whi	711	, ,	√€i⊁ ΩII.	70.		er o	LIEX	MLTEX	MAL	i Eix	JEN.	MITER
Output voltage (11.1) under load	TEX.	MALTER	MULT	, 1 ₂	.+	nn.	WI TE	- J	*	LIEN	NLTER	- NALT	~n,	LIEK V
Insulating re- sistance	rin.	LIEK V	ALTEK	, whi	, ₁ 1	, .	in r	"EK	20	et .	TEK.	J. L. F. F.	المالية المالية	EK AN
High voltage test (35% of the values in Table 8.a	MULT	ek m	TEN.	MALTER	unic LEX	- un	, t	one. Tex	WAL SLIFEK	اللا اللا	* "L	TEK T	NITEY NITEY	WALTE

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	Reference	NO W 1 X 2 2 X 00 13 / 3 / 0 3	Page 66 01 122		
ś	TER SILTER	White Man Man M	IEC 61558-2-16	et tet liet sliet s	ALTER WALTE
20	Clause	Requirement + Test	EK NITER WALL WAL	Result - Remark	Verdict

Clause	Requirement + Test	Result - Remark	Verdict
AA	Annex AA	NIEK NEK WEIGH	N/A
An A	Partial discharge (PD) test	A A A A	N/A
ВВ	Annex BB	Will My Charles	N/A
NITE! WAL	Particular requirements for associated transform supplies with internal frequencies > 500 Hz	ers for switch mode power	N/A
et set	See separate test report-form for these Annex.	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N/A
BB.8	MARKING AND OTHER INFORMATION	WILL MUI MIL MA	N/A
BB.8.2	Marking for transformers IP00 or for associated transformers: type and trademark, instruction sheets	Whitek Whitek Whitek White	N/A
BB.8.11	Correct symbols:	LIER WILL WALL WALL	N/A
at a	Volts	V	N/A
r. Mr.	Amperes	A (mA)	N/A
y Tex	Volt amperes (or volt-amperes reactive for reactors)	VA or (VAR)	N/A
an.	Watts	Mrs m. m. m.	N/A
JEE .	Hertz	Hz	N/A
20 20	Input	PRI	N/A
SLIFE MI	Output	SEC	N/A
, 4	Direct current	d.c. (DC) or ====	N/A
IER WILL	Neutral	N/A	N/A
ı x	Single-phase a.c.	\sim	N/A
white	Three-phase a.c.	3~	N/A
<i>A</i> +	Three-phase and neutral a.c.	3N \sim	N/A
are ar	Power factor	cosφ	N/A
TER SIT	Class II construction		N/A
	Class III construction	(II)	N/A
Merch	Fuse-link	FILTE WALTER WHILE WAS	N/A
WILLE	Rated max. ambient temperature	ta	N/A
	Frame or core terminal		N/A
ines and	Protective earth		N/A
IEN NITE	IP number	IPXX	N/A
+ 10+	Earth (ground for functional earth)	<u> </u>	N/A
Mr.	For indoor use only		N/A

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The state of	IEC 61558-2-16	et the life all	WILL WE
Clause	Requirement + Test	Result - Remark	Verdict
W.C.	tw5 YYY	milk while while	N/A
det.	tw10 YYY	* * *	N/A
20 211	twx yyy	with mile mile m	N/A
الم. المثان	Additional Symbols (IEC 61558-2-16:09)	A A A A	N/A
ex antiex	SMPS incorporating a Fail-safe separating transformer	or OF	N/A
3B.8.2	Marking for transformers IP00 or for associated transformers: type and trademark, instruction sheets	WITER WILLER WATER	N/A
3B.8.11	Correct symbols:	a at the	N/A
in the	Volts	V we we we	N/A
SEL SILE	Amperes	A (mA)	N/A
2,	Volt amperes (or volt-amperes reactive for reactors)	VA or (VAR)	N/A
CLIER	Watts	W	N/A
2,	Hertz	Hz	N/A
WITE OF	Input	PRI	N/A
	Output	SEC	N/A
LIFE	Direct current	d.c. (DC) or ====	N/A
+ .6	Neutral	N/A	N/A
Mer	Single-phase a.c.		N/A
- LEX	Three-phase a.c.	3~	N/A
me.	Three-phase and neutral a.c.	$3N$ \sim	N/A
. Let	Power factor	cosφ	N/A
11. 21.	Class II construction	nr mr m	N/A
ie mi	Class III construction	(ii)	N/A
y whiteh	Fuse-link	First sures muses	N/A
, t	Rated max. ambient temperature	ta	N/A
aria a	Frame or core terminal	A WILL WILL W	N/A
LIFEK	Protective earth		N/A
A 10	IP number	IPXX	N/A
MULL	Earth (ground for functional earth)	LIFE WALTE WALL	N/A
WALTER.	For indoor use only		N/A
21-	tw5 YYY	70, 0, 7,	N/A

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Clause	Requirement + Test	Result - Remark	Verdic
Clause	requirement i rest	result - Remain	Verdic
111	tw10 YYY	murry mer my my	N/A
NITE N	twx yyy	THE THE THE NUT	N/A
	Additional Symbols (IEC 61558-2-16:09)	Nur mu m	N/A
iter whi	SMPS incorporating a Fail-safe separating transformer	F or F	N/A
MULTER	SMPS incorporating a Non-short-circuit-proof separating transformer		N/A
VILLE V	SMPS incorporating a Short-circuit-proof separating transformer (inherently or non-inherently)		N/A
	SMPS incorporating a Fail-safe isolating transformer	F or F	N/A
t TEX	SMPS incorporating a Non-short-circuit-proof isolating transformer		N/A
'n'ex	SMPS incorporating a Short-circuit-proof isolating transformer (inherently or non-inherently)	e or the	N/A
n in	SMPS incorporating a Fail-safe safety isolating transformer	F	N/A
	SMPS incorporating a Non-short-circuit-proof safety isolating transformer		N/A
WILL	SMPS incorporating a Short-circuit-proof safety isolating transformer (inherently or non-inherently)		N/A
mer.	SMPS (Switch mode power supply unit)	s until until until	N/A
3B.9	PROTECTION AGAINST ELECTRIC SHOCK	MITTER WITH WHITE	N/A
	TROTEGION AGAINST ELEGINIC STOCK	ar ar ar ar	13/4
3B.10	CHANGE OF INPUT VOLTAGE SETTING	itt mit viet unt	N/A
- OF CASE	with mit mit and the	et the the state wi	it will
3B.11	OUTPUT VOLTAGE AND OUTPUT CURRENT UN	IDER LOAD	N/A
WILLE O	THE WAY WAY THE LEFT	LIER OLIER WILLER	MULT
3B.12	NO-LOAD OUTPUT VOLTAGE (see supplementa	ry requirements in Part 2)	N/A
ic. m	Mr. Will the feet lifet	NUTER ANCIE WHILE WHILE	11/2 1
3B.13	SHORT-CIRCUIT VOLTAGE	e at at let	N/A
an.	The state of the s	The MULL MULL MULL M	r 4,
3B.14	HEATING	t at all all a	N/A
3B.14.2	Application of 14.1 or 14.3 according to the insulation system	MULL MULL MULL MILL	N/A

Waltek Testing Group (Shenzhen) Co., Ltd. http://www.waltek.com.cn

	IEC 61558-2-16		MLIE WIL
Clause	Requirement + Test	Result - Remark	Verdict
BB.14.2.1	Class of isolating system (classified materials according to IEC 60 085 and IEC 60 216)	While while white	N/A
BB.14.2.2	No classified material, or system but the measured temperature does not exceed the value of Class A	With Murr Murr M	N/A
BB.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	TER WHITE WHITE WHITE	N/A
BB.14.3	Accelerated ageing test for undeclared class of isolating system	THE STEE STEEL	N/A
	Cycling test (10 cycles):	24 24 24 24 1	N/A
Will all	measuring of the no-load input current (mA)	LIER SLIER WITE OF	N/A
BB.14.3.1	heat run (temperature in table 2)	70, 7	N/A
BB.14.3.2	 vibration test: 30 min; amplitude 0,35 mm; frequency range: 10 Hz, 55 Hz, 10 Hz 	ER WITE MUTE MUT	N/A
BB.14.3.3	- moisture treatment (48 h, 17.2)	TER STER WITE	N/A
BB.14.3.4	Measurements and tests at the beginning and after each test:	all the little	N/A
36 J	 deviation of the no-load input current, measured at the beginning of the test is 30% 	The survey of th	N/A
10	- insulation resistance acc. cl.18.1 and 18.2	The The The	N/A
EK WALTER	electric strength, no breakdown (18.3); 2 min; test voltage 35% of specified value (table VI)	ONLIE WILLE	N/A
unitek unitek	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	Whitek whitek whitek	N/A
et d	the test street with marile and a	h. 2, 2	et et .
BB.15	SHORT-CIRCUIT AND OVERLOAD PROTECTION	TER WITE WITE WILL	N/A

BB.15	SHORT-CIRCUIT AND OVERLOAD PROTECTION	N/A
BB.16	MECHANICAL STRENGTH	N/A
BB.17	PROTECTION AGAINST HARMFUL INGRESS OF WATER AND MOISTURE	N/A

BB.18	BB.18 INSULATION RESISTANCE AND ELECTRIC STRENGTH		N/A
BB.18.2	Insulation resistance between:	of the the the	N/A
y Liet	live parts and body for basic insulation 2 M	A SH SH SH	N/A
W. E.F.	live parts and body for reinforced insulation 7 M	MULL MULL MULL MILL	N/A

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	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdict
- NATU	input circuits and output circuits for basic insulation 2 M	White Must miss in	N/A
ne n	input circuits and output circuits for double or reinforced insulation 5 M	NITE WILL WILL WILL	N/A
in we	each input circuit and all other input circuits connected together 2 M	TEX WHITE WHITE WHITE	N/A
MULLE	 each output circuit and all other output circuits connected together 2 M 	JUNITER WALTER WALTER	N/A
WALTER	 hazardous live parts and metal parts with basic insulation (Class II transformers) 	NITES WALTER WALTER OF	N/A
INLTEK VIN	 body and metal parts with basic insulation (Class II transformers) 5 M 	LIER WITH WITH WITH	N/A
TEX MIT	metal foil in contact with inner and outer sur- faces of enclosures 2 M	Et SET STET NITER	N/A
BB.18.3	Electric strength test (1 min): no flashover or breakdown:	out the test	N/A
NITER N	basic insulation between input circuits and output circuits; working voltage (V); test voltage (V)	THE STEEL WITH AN	N/A
NITER WAT	double or reinforced insulation between input circuits and output circuits; working voltage (V); test voltage (V)	of the suntre	N/A
Et JE	3) basic or supplementary insulation between:	The fift	N/A
- 167 - 101	a) live parts of different polarity; working voltage (V); test voltage (V)	min my m	N/A
ang.	b) live parts and the body if intended to be connected to protective earth:	murity murity mury and	N/A
inere in	c) inlet bushings and cord guards and an- chorages:	NITER WHITE WALLE WAL	N/A
ITER WALL	d) live parts and an intermediate conductive part:	TEX MALTEX WALTER WALTER	N/A
TEN TIEN	e) intermediate conductive parts and body:	- it let tel	N/A
W.	Reinforced insulation between the body and live parts; working voltage (V); test voltage (V) .:	Mur Aur Aur A	N/A
WILEX WY	2) Functional insulation for windings intended to be connected in series or parallel (test voltage = working voltage + 500 V) (IEC 61558-2-16:2009)	THE WIFE MUTER WITH	N/A

BB.19	CONSTRUCTION	N/A
BB.19.1	Separation of input and output circuits	N/A

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IEC 61558-2-16			and and
Clause	Requirement + Test	Result - Remark	Verdict
BB.19.1.1	SMPS incorporating auto-transformers (IEC 61558-2-16:2009)	White white white	N/A
BB.19.1.2	SMPS incorporating separating transformers (IEC 61558-2-16:2009)	WILE MILL MILL A	N/A
BB.19.1.2. 1	Input and output circuits electrically separated. (IEC 61558-2-16:09)	TER MITER MITTER WAY	N/A
BB.19.1.2. 2	The insulation between input and output winding(s) consist of basic insulation (IEC 61558-2-16:09)	MULTER WALTER WALTE	N/A
CIER .	Class SMPS	et set set	N/A
Sill Sill	Insulation between input windings and body consist of basic insulation	Mur Mur Mur	N/A
	Insulation between output windings and body consist of basic insulation	sere mari mari m	N/A
in and	Class II SMPS (IEC 61558-2-16:09)	ER INTER WILL MINE	N/A
y white	Insulation between input windings and body consist of double or reinforced insulation	TEX NUTER OUTER	N/A
SLITEK OF	Insulation between output windings and body consist of double or reinforced insulation	ret ret ret	N/A
BB.19.1.2. 3	The insulation between input windings and intermediate conductive parts and the output windings and intermediate part consist of basic insulation (IEC 61558-2-16:09)	THE MINISTER WITH	N/A
SE WALTER	For class I SMPS the insulation between input and output windings via the intermediate conductive parts consist of basic insulation (IEC 61558-2-16:09)	JUNITE WHITE WHITE	N/A
MULTER MUST	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 (IEC 61558-2-16:09)	STEET MITTER MITTER OF	N/A
BB.19.1.2. 4	Parts of output circuits may be connected to protective earth (IEC 61558-2-16:09)	who we we	N/A
BB.19.1.2. 5	No direct contact between output circuits and the body, unless: (IEC 61558-2-16:2009)	MULL MULL MUL	N/A
Mur. M	Allowed for associated transformers by the equipment standard	Marie Marie Marie	N/A
ALTE WAL	- Clause 19.8 of part 1 is fulfilled	TER STER STEE	N/A
BB.19.1.3	SMPS incorporating isolating transformers and safety isolating transformers (IEC 61558-2-16:09)	et tet tet st	N/A
BB.19.1.3. 1	Input and output circuits electrically separated (IEC 61558-2-16:09)	THE THE TEXT	N/A
7112 7	No possibility of any connection between these circuits	MULL MULL MULL	N/A

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it with	IEC 61558-2-16	EX TEX LIFE OUT	MLTL MALI
Clause	Requirement + Test	Result - Remark	Verdict
BB.19.1.3. 2	The insulation between input and output winding(s) consist of double or reinforced insulation (exception see 19.1.3.4) (IEC 61558-2-16:09)	White white white	N/A
LIEK NLT	Class I SMPS not intended for connection to the mains by a plug:	at all the	SEK SLIEF
EK WITEK	Insulation between input windings and body connected to earth consist of basic insulation rated to the input voltage	t number while	N/A
MALTEK W	 Insulation between output windings and body, connected to earth consist of basic insulation rated for the output voltage 	WALTER WALTER	N/A
INLIER WAT	Class I SMPS intended for connection to the mains by a plug (EN 61558-2-16:09):	LIET MILER MILIER W	N/A
TEK WILTER	Insulation between input windings and body connected to earth consist of basic insulation rated to the working voltage	Et whitet whitet whi	N/A
White.	 Insulation between output windings and body, connected to earth consist of supplementary insulation rated for the working voltage 	WALTER WALTER WALTER	N/A
me m	Class II SMPS (IEC 61558-2-16:09)	WITER WALLE WALLE	N/A
NITER WALL	Insulation between input windings and body consist of double or reinforced insulation rated to the input voltage	the printer on	N/A
EK WILTER KURLIER	 Insulation between output windings and body consist of double or reinforced insulation, rated to the output voltage 	White while while	N/A
BB.19.1.3. 3	SMPS with intermediate conductive parts not connected to the body (between input/output) (EN 61558-2-16:09):	MULTER MULTE WILL.	N/A
19.1.3.3.1	For class I and class II SMPS the insulation between input and output windings, via intermediate conductive parts, consist of double or reinforced insulation, rated to the working voltage (EN 61558-2-16:09)	LEX MUTTER MUTTER MUT	N/A
Whitek M	 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. (rated to the input voltage, for SELV circuits only basic insulation to the body)) 	while while whilek	N/A
TEK WATER	 For transformers, different from independent, the insulation between input and output wind- ings, via intermediate conductive parts, consist of double or reinforced insulation, rated to the working voltage. 	MULTER WHITER WHITE	N/A
BB.19.1.3. 3.2	Class I transformers with earthed core, and not allowed for class II equipment (EN 61558-2-16:09)	MUET MUET MUET	N/A

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100	IEC 61558-2-16	Et THE JEE ST	The Mr
Clause	Requirement + Test	Result - Remark	Verdict
	me and any and any	- It It I'm	LIFE WILL
	Insulation from the input to the earthed core: basic insulation rated for the input voltage	mer mer me	N/A
one and	Insulation from the output voltage to the earthed core: basic insulation rated for the output voltage	nute until unil o	N/A
BB.19.1.3. 3.3	Insulation between: input to intermediate conductive parts and output and intermediate parts consist of at least basic insulation (EN 61558-2-16:09)	t mitely mutely muste	N/A
WALTER W	 If the insulation from input or output to the in- termediate metal part is less than basic insula- tion, the part is considered to be connected to input or output. 	whitek whitek whitek	N/A
BB.19.1.3. 4	For class I SMPS, with protective screen, no t connected to the mains by a plug the following conditions comply (EN 61558-2-16:09):	est which which w	N/A
t whitek	The insulation between input winding and protective screen consist of basic insulation (rated input voltage)	with with white	N/A
MUTER M	The insulation between output winding and protective screen consist of basic insulation (rated output voltage)	United Milited Milited of	N/A
LITER WALT L	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	tet of antitet on	N/A
	 Where the protective screen does not cover the entire width of the input winding, additional in- sulation to ensure double insulation in this area, is used. 	MILIE MILIER MILIER	N/A
INLIEK NIN	If the screen is made by a foil, the turns are isolated, overlap at least 3 mm	TER TER TER	N/A
TEK WALTE	The cross-section of the screen and the lead out wire is at least corresponding to the rated current of the overload device	let united multiple mult	N/A
H WALTER	The lead our wire is soldered or fixed to the protective screen.	- lifet skifek skifet	N/A
INLITES AND	Protective screening is not allowed for SMPS with plug connection to the mains (EN 61558-2-16:09)	THE TEXT TEXT	N/A
BB.19.1.3. 5	No connection between output circuit and protective earth, except of associated transformers (allowed by equipment standard) or 19.8 is fulfilled (EN 61558-2-16:09)	TEK MUTER AUTER AU	N/A
BB.19.1.3. 6	No connection between output circuit and body, except of associated transformers (allowed by equipment standard) (EN 61558-2-16:09)	A MULLER MULL	N/A
BB.19.1.3. 7	The distance between input and output terminals for the connection of external wiring is 25 mm	MULLE MULL MULL	N/A

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
BB.19.1.3. 8	Portable SMPS having an rated output ≤ 630 VA (EN 61558-2-16:09)	White white	N/A
BB.19.1.3. 9	No connection between input and output circuit, except of associated transformers (allowed by equipment standard) (EN 61558-2-16:09)	NITE WALL WALL WAS	N/A
BB.19.1.3. 10	Protective screening is not allowed for SMPS with plug connection to the mains (EN 61558-2-16:09)	A REP. TOP	N/A
BB.19.11	Handles, levers, knobs, etc.:	white were men.	N/A
SLIER O	 insulating material 	at let let.	N/A
20, 2	 supplementary insulation covering 	we me me	N/A
INLIEE WALT	separated from shafts or fixing by supplementary insulation	STEK WATER WATER WATER	N/A
BB.19.12	Windings construction	at the test of the	N/A
BB.19.12.1	Undue displacement in all types of transformers not allowed:	and and and	N/A
242 3	of input or output windings or turns thereof	WILL MULL MULL A	N/A
WALTER WA	of internal wiring or wires for external connection	SLIET SLIET MLIET MA	N/A
LIEK WILL	of parts of windings or of internal wiring in case of rupture or loosening	at July nut	N/A
BB.19.12.2	Serrated tape:	7 1 1 1 2	N/A
WELL	distance through insulation according to ta- ble 13	White white white	N/A
"NLTER" N	one additional layer of serrated tape, and	TEX STEX STEX	N/A
- C	one additional layer without serration	me me me m	N/A
unite uni	 in case of cheek less bobbins the end turns of each layer shall be prevented from being dis- placed 	RITER WHITER WHITER WHI	N/A
BB.19.12.3	Insulated windings wires:	TER INTERNALL WALL	N/A
LY WILLIEM	to all types of transformers for basic or supplementary insulation taken separately	- STEE STEEL SMITH	N/A
antifek an	Winding wire with basic or supplementary insulation:	THE STATE OF	N/A
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- comply with Annex K	me me me	N/A
NITE WALL	- the insulation of the conductor: two layers	TEX JEET WITE WIT	N/A
TEK INTEK	b) Winding wire with double or reinforced insulation:	of the state	N/A
77	comply with Annex K	me me	N/A
WALTER OF	 the insulation of the insulated winding wire: three layers 	MUTER WALTER WALTER OF	N/A

	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdic
ALL THE	dielectric strength test with the values according 18.3 multiplied by 1,25	White white white whi	N/A
ne in	Where the wire is wound:	alter walt walt was	N/A
Tek J	upon metal or ferrite cores	e de de de	N/A
10	upon enamelled wire	ite with mut must	N/A
et with	under enamelled wire	t let let let let	N/A
WALLEX W	An additional insulation with a dti of supplementary insulation provided between insulated an enamelled wires	White while while while	N/A
NLTEK NIN	100 % Routine test according to Annex K.3 for windings giving double or reinforced insulation	so set stat stat	N/A
TEK WILTE	For windings providing reinforced insulation the values in table 13, table C.1 and table D1, box 2) c), are not required	et with whilet whilet	N/A
BB.20	COMPONENTS	the state of the same	N/A
		all all a	t let
BB.21	INTERNAL WIRING	Willy Will Mile Mile	N/A
BB.22	SUPPLY CONNECTION AND EXTERNAL FLEXIBI	LE CABLES AND CORDS	N/A
1, 10,	AVAVAA (2 STO STO STO	" Kuni uni	21/2 21
BB.23	TERMINALS FOR EXTERNAL CONDUCTORS		N/A
	C A THE THE MITTER MITTER SHALL	mill mill mill mill	
BB.24	PROVISION FOR PROTECTIVE EARTHING	the the state of	N/A
3,,,	It less that they write while many	My My My an	
BB.25	SCREWS AND CONNECTIONS	THE STEE NITER SINITER	N/A
	of the the the mile man and a	12 19 19 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<i>*</i>
BB.26	CREEPAGE DISTANCES AND CLEARANCES	TEN ALTER MITTER SMITE	N/A
BB.26.1	See 26.101	The state of	N/A
BB.26.2	Creepage distances (cr) and clearances (cr)	THE WALTER WALTER WAY	N/A
BB.26.2.1	Windings covered with adhesive tape	a at at a	N/A
m n	the values of pollution degree 1 are fulfilled	WILL MILL MILL MAN	N/A
NITEK WILL	 all isolating material are classified acc. to IEC 60085 and IEC 60216 	TEX WITER WITER WATER	N/A
Et Et	- test A of 26.2.3 is fulfilled		N/A
BB.26.2.2	Uncemented insulating parts pollution degree P2 or P3	MULL MULL MULL M	N/A
MALI	 all isolating material are classified acc. to IEC 60085 and IEC 60216 	WHITE WATER WHITE WAS	N/A

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IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict
70,000	 values of pollution degree 1 are not applicable 	MILES MATERIALITY	N/A
BB.26.2.3	Cemented insulating parts	t of of	N/A
ale de	all isolating materials are classified acc. to IEC 60085 and IEC 60216	nt mi mi mi	N/A
of lit	values of distance through insulation (dti) are fulfilled	TET WALL MALL MALL	N/A
W.	 creepage distances and clearances are not required 	MULLE MULLE MULL.	N/A
MUCLE W	test A of this sub clause is fulfilled	STIEF WITE WITE SH	N/A
de s	Test A		N/A
in the	- thermal class	LIE WILL MUT MUT	N/A
(Elt JER	working voltage	e et et set	N/A
√111° } √6*	Test with three specially specimens, with unin- sulated wires, without impregnation or potting	(see appended table)	N/A
Aug 1	Two of the three specimens are subjected to:	WILLER MULTE MULTER	N/A
unlifek wi	 the relevant humidity treatment according to 17.2 (48 h) 	Lifet Sifet Mires MA	N/A
LITER MITE	 the relevant dielectric strength test of 18.3 multiplied with factor 1,35 		N/A
EK WALTEK	 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 tempera- ture 	White while whiles	N/A
writek war	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	THE LIFE BLICK WIL	N/A
3B.26.2.4	Enclosed parts, by impregnation or potting	C 44 44	N/A
3B.26.2.4. 1	The requirements of reduced values as stated for pollution degree 1 (P1) are fulfilled	MALTER WALTER WALTER	N/A
WALTE.	 all isolating materials are classified acc. to IEC 60085 and IEC 60216 	WALTER WALTER WALTER	N/A
NITER OF	Test B	et let let	N/A
n .	- thermal class	min men men m	N/A
LITER MALT	working voltage	TER TER STER OUT	N/A
EX MULTER	Test with three specially specimens, potted or impregnated. The dielectric strength test is applied directly to the joint.	(see appended table)	N/A
- 18t	Two of the three specimens are subjected to:	The state of	N/A
21/2 2	the relevant humidity treatment according to 17.2 (48 h)	MUTTE MUTT MET A	N/A

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The same	IEC 61558-2-16	Et Jet Jill NIV	one we
Clause	Requirement + Test	Result - Remark	Verdict
Wall.	the relevant dielectric strength test of 18.3 multiplied with factor 1,25	White white wife	N/A
JUNES WHITE	 One of the three specimens is subjected to the relevant dielectric strength test of 18.3 multi- plied by the factor 1,25 immediately at the end of the last cycle with high temperature 	NIE WHITE WHITE WHITE	N/A
NUTER O	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	MALTER MALTER MALTER	N/A
BB.26.2.4. 2	The requirements of distance through insulation (dti) are fulfilled. (P1 values are not required)	mer me me m	N/A
الله عام القارب علي	 all isolating materials are classified acc. to IEC 60085 and IEC 60216 	the write with with	N/A
MULL	Test C	EX OLIER MITER WALTER	N/A
+ 10+	- thermal class	70 7	N/A
Ing.	 working voltage 	CLIEF WILL WILL	N/A
UNLTEK WA	Test with three specimens, potted or impregnated. (finished components)	(see appended table)	N/A
LIER WIT	 Neither cracks, nor voids in the insulating compounds 	THE REPORT OF THE PARTY	N/A
	Two of the three specimens are subjected to:	2 10 10	N/A
MULTE	the relevant humidity treatment according to 17.2 (48 h)	WALTER WALTER WALTER	N/A
WALTER	the relevant dielectric strength test of 18.3 multiplied with factor 1,35	MULTER MALTER WALTER	N/A
inter out	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	NITER WHITER WHITER WHITE	N/A
H WALTER	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	WALTER WALTER	N/A
BB.26.3	Distance through insulation	WILL MULL MULL MU	N/A
NITEK WILL	For double or reinforced insulation, the required values of Tables 13, C1, and D1 – boxes 2b, 2c and 7 are fulfilled	TEX WILLEX WILLER WILL	N/A
TER WALTER	The insulation fulfil the material classification according IEC 60085 or 60216 or the test of 14.3	ex writer writer writer	N/A
BB.26.3.1	Reduced values of the thickness of insulation for supplementary or reinforced insulation are allowed if the following conditions are fulfilled:	MALTER MALTER MALTER	N/A

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C. William	IEC 61558-2-16		
Clause	Requirement + Test	Result - Remark	Verdict
WILL .	the isolating materials are classified acc. to IEC 60085 and IEC 60216	White white white	N/A
they the	- the test of 14.3 is fulfilled	NITE WILL WILL V	N/A
LIEK WALT	If both requirements are fulfilled, the required values for solid insulation can be multiplied by 0,4	TEX WAITER WATER WA	N/A
MULTE	 Minimum thickness of reinforced insulation ≥0,2 mm 	MILIER WALTER WALTE	N/A
WALTER ON	 Minimum thickness of supplementary insulation ≥0,1 mm 	INITER MALTER MALIER	N/A
3B.26.3.2	Insulation in thin sheet form	at at at	N/A
$v_{i} = v_{i}$	If the layers are non separable (glued together):	The Mult Mult M	N/A
TEK SITE	The requirement of 3 layers is fulfilled	at at set s	N/A
t Test	 The mandrel test according 26.3.3 is fulfilled with 150 N/A 	me me me	N/A
WIND Y	 The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" are fulfilled. 	White whit whi	N/A
27.	If the layers are separated:	no my	N/A
LIFE MALT	The requirement of 2 layers is fulfilled	at the state of	N/A
ek whitek	If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required	THE MILE WALE	N/A
WALTER	The mandrel test according 26.3.3 is fulfilled on each layer with 50 N/A	LIET SLIET STEEL	N/A
unitiesk vuni	 The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" are fulfilled. 	NITES WATER WAITER W	N/A
TEK SITE	If the layers are separated (alternative:	at at the	N/A
72,	- The requirement of 3 layers is fulfilled	e were me me	N/A
AUNTER AND THE AUNTER A	 If serrated tape is used, 1 additional layer (serrated) and one additional layer without serration is required 	WILLER WILLER WILLE	N/A
	The mandrel test according 26.3.3 is fulfilled on 2/3 of the layers with 100 N/A	Whitek Whitek Whitek	N/A
	The required values for d.t.i. of Tables 13, C.1 and D.1 – marked by index "e" are fulfilled.	LIER WHITER WHITER W	N/A
	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	Junite White White	N/A

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LIE MIT	Î

The same	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
WATER AND	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:	TEX SITEX SITEX	N/A	
LIEK MLF	 rated output > 100 VA values in square brack- ets apply 	of the text	N/A	
et det	 rated output 25 VA 100 VA 2/3 of the value in square brackets apply 		N/A	
100 July 1	rated output 25 VA 1/3 of the value in square brackets apply	mulit muli mus	N/A	
BB.26.3.3	Mandrel test of insulation in thin sheet form (specimen 0f 70 mm width are necessary):	White White White	N/A	
inties and	If the layers are non separable – at least 3 layers glued together fulfil the test:	LIER WHITE WHITE W	N/A	
IE OLIVE	- pull force of 150 N/A	et let let il	N/A	
y whitek	 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. 	White white	N/A	
NALTEK WA	 If the layers are separable and 2/3 of at least 3 layers fulfil the test. 	Tet Jet Nifet	N/A	
. A .	pull force of 100 N/A	12 24 20	N/A	
EX LEX	 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. 	The Court of	N/A	
- Ch	If the layers are separable 1 of at least 2 layers fulfil the test:	min min m	N/A	
They a	- pull force of 50 N/A	MITE INTERNATE	N/A	
MALTEK WAY	 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. 	SITER WHITER WATER OF	N/A	
BB.26.101	Creepage distances, clearances and distances through insulation, specified values according to (EN 61558-2-16:09):	LEX WHITE WALLES WAL	N/A	
"Inter"	- table 13, material group IIIa (part 1)	CHE WITH WALTE	N/A	
All the	- table C, material group II (part 1)	1 A C	N/A	
me m	- table D, material group I (part 1)	WILL MULL WALL	N/A	
Jet J	working voltage	a state	N/A	
h m	- rated supply frequency 50/60 Hz	Tile MUTT, MUTE MA	N/A	
SEL STER	- rated internal frequency	at all all a	N/A	
t whitet	Insulation between input and output circuits (basic insulation):	mer mer me	N/A	
	a) measured values specified values (mm)	MUTTE MUTE MUTE	N/A	

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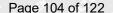
IEC 61558-2-16			
Clause	Requirement + Test Result - Remark	Verdic	
W. Lit.	Insulation between input and output circuits (double or reinforced insulation):	N/A	
in in	a) measured values specified values (mm)	N/A	
TANKE	b) measured values specified values (mm)	N/A	
MULTE	c) measured values specified values (mm)	N/A	
WALTER	Insulation between adjacent input circuits: measured values specified values (mm) :	N/A	
NLTEK JUNE	Insulation between adjacent output circuits: measured values specified values (mm):	N/A	
TEK MITE	Insulation between terminals for external connection:	N/A	
t TEX	a) measured values specified values (mm)	N/A	
The .	b) measured values specified values (mm)	N/A	
	c) measured values specified values (mm)	N/A	
LIE WILL	5. Basic or supplementary insulation:	N/A	
ek antiek	a) measured values specified values (mm)	N/A	
TEL	b) measured values specified values (mm)	N/A	
78th 1	c) measured values specified values (mm)	N/A	
24	d) measured values specified values (mm)	N/A	
2 July	e) measured values specified values (mm)	N/A	
MULIE	6. Reinforced or double insulation: measured values specified values (mm)	M/A N/A	
OLITER SI	7. Distance through insulation:	N/A	
SEL S	a) measured values specified values (mm)	N/A	
	b) measured values specified values (mm)	N/A	
. Mr.	c) measured values specified values (mm)	N/A	
BB.26.102	Values of IEC 61558-2-16 applicable for frequency up to 3 MHz (EN 61558-2-16:09)	N/A	

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W

IEC 61558-2-16			MILL WE
Clause	Requirement + Test	Result - Remark	Verdict
Notice of	For frequency above 3 MHz clause 7 of IEC 60664-4 is applicable (high frequency testing)	White Muster Mister	N/A
BB.26.103	Clearance (EN 61558-2-16:09)	NITE WILL WILL V	N/A
LIEK WALTE	a.) Clearance for frequency ≥ 30 kHz according figure 101 two determinations are necessary:	TER WILER WILER MAN	N/A
ek whitek	determination based on peak working voltage according Table 104 :	t lifet wifet mile	N/A
	Peak working voltage	10 10 10 L	N/A
اله ماليالي	Basic insulation: required / measured	TIER WITER WITER	N/A
NITER MINI	Double or reinforced insulation: required / measured value	all the the	N/A
THE LIES	 and alternative if applicable for approximately homogeneous field according to Table 102 	at all all a	N/A
20	Peak working voltage	Mur. Mur. Mur.	N/A
CLIEB.	Basic insulation: required / measured	- Let Jet Jet	N/A
THE S	Double or reinforced insulation: required / measured value	MUT MUT MILE	N/A
	 determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101) 	intel mail and a	N/A
EK STIEK	The minimum clearance is the greater of the two values.		N/A
- ZEF	 b.) Clearance for frequency ≤ 30 kHz according figure 101 two determinations are necessary: 	Mus Mus Mis	N/A
WALL A	 determination based on peak working voltage with recurring peak voltages according Table 103: 	WHITE WILL WILL	N/A
TEK WALTER	 determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101) 	let writet writet wri	N/A
y writer	The minimum clearance is the greater of the two values.	- TEX STEX WITE	N/A
BB.26.104	The working voltages of Table 102, 103 and 104 are peak voltages including µsec peaks EN 61558-2-16:09)	MILES WALLES	N/A
ALTEK WALL	The working voltage according to Table 13 of part 1 are r.m.s. voltages	LIER WIER WILLER	N/A
BB.26.105	Creepage distances		N/A
	Two determinations of creepage distances are necessary (see Figure 102)	MULTE WALL WAL	N/A
MULL A	 determination based on measured peak working voltage according. Tables 105 to 110 	WHITE WAITE WHITE	N/A



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TE WITE	IEC 61558-2-16			
Clause	Requirement + Test	Result - Remark	Verdict	
Life .	The same was any and the	A LET LET	LIFE SELF	
	Peak working voltage	AUT. AUT. AUG.	N/A	
CLIER IN	Pollution degree	Alt Alt Old	N/A	
TEX SITE	Basic or supplementary insulation: required / measured		N/A	
et let	Double or reinforced insulation: required / measured value	the mer mer me	N/A	
un! . altex	 determination based on measured r.m.s. working voltage according Tables 13, C1 and D1 (see clause 26.101) 	White white whi	N/A	
unitek mur	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	whi will will it	N/A	
BB.26.106	Distance through insulation (EN 61558-2-16:09)	70 7	N/A	
y while	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:	STEEL WHITE WALLEY	MA N/A	
At .	- the max. frequency is < 10 MHz	" + A	N/A	
mr m	the field strength approximately comply with Figure 103	mitte white whi v	N/A	
VILL MUT	no voids or gaps are present in between the solid insulation	TET OF MILE MI	N/A	
WALTER OF	For thick layers d1 \geq 0,75 the peak value of the field strength is \leq 2 kV/mm	White while while	N/A	
	For thin layers d2 ≤ 30 µm the peak value of the field strength is ≤ 10 kV/mm	MITEL WALTER WALTER	N/A	
NALTEX NAT	For d1 > d > d2 equation (1) is used for calculation the field strength	THE STEE STEEL OF	N/A	

BB.27	RESISTANCE TO HEAT, FIRE AND TRACKING	N/A
	112010111110211011111111111111111111111	4074 5076

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recicione	2 No.: W 17/22/00/10/10/00	1 age 100 of 122		
JEE MITE	WILL MILL MULT A	IEC 61558-2-16	CENT TENT STEET STEET	MLTE WILL
Clause	Requirement + Test	EK RETER WITE WAS	Result - Remark	Verdict

BB.E	ANNEX E , GLOW WIRE TEST	Mrs. Mr. Mr. M.	N/A
WALTER	The test is required according to IEC 60695-2-10 and IEC 60695-2-11 with the following additions:	NIFE WAITER WAITER	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	TEK NITEK MITEK WAITEK W	N/A
BB.E2	Clause 8, "Conditioning", of IEC 60695-2-11 apply, preconditioning is required	t itek sirek nirek ini	N/A
BB.E3	Clause 10, "Test Procedure", of IEC 60695-2-11apply, The tip of the glow wire is applied to the flat side of the surface.	STEEL WILLIES WASTER WHITE	N/A

BB.F	ANNEX F, REQUIREMENTS FOR MANUALLY OPERATED SWITCHES WHICH	N/A
at at	ARE PARTS OF THE TRANSFORMER	at a

BB.H	ANNEX H, ELECTRONIC CIRCUITS (IEC 61558-	N/A
in with a	1) with an analysis of the test test with the state of th	The F

BB.K ANNEX K, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION		YER N/A
BB.K.1	Wire construction:	
EK STEK	insulated winding wire with min. two layers for basic or supplementary insulation	N/A
- Let	insulated winding wire with min. three layers for reinforced insulation	N/A
1/2 1	winding insulation material:	N/A
BB.K.2	Conformance test	N/A
BB.K.2.1	Test 13 of IEC 60 851-5 nominal conductor diameter 0,018 mm 0,1 mm, test as specified in 4.2.1 and 4.2.2 of IEC 60 851-5	N/A
ek whitek	Nominal conductor diameter > 0,1 mm, 2,5 mm, test as specified in 4.3.1 and 4.3.2 of IEC 60 851-5	N/A
WALTEK W	Nominal conductor diameter < 2,5 mm, test as specified in 4.4.1 and 4.4.2 of IEC 60 851-5	N/A
NITEK MIL	High voltage test immediately after the above specified tests:	N/A
	- test voltage for two layers 3 kV	N/A
in white	- test voltage for three layers 5,5 kV	N/A
BB.K.2.2	Adherence and flexibility, test as specified under 5.1.4 of IEC 60 851-3	N/A
3,,	high voltage test immediately after this test	N/A

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IEC 61558-2-16						
Clause	Requirement + Test	Result - Remark	Verdict			
11/12	test voltage for two layers 3 kV	While white white	N/A			
CLIER AND	test voltage for three layers 5,5 kV	LET TEX TEX	N/A			
BB.K.2.3	Heat shock, test as specified under 3.1 or 3.2 of IEC 60 851-6:	The same of	N/A			
- 27	high voltage test immediately after this test	King me me	N/A			
er ster	- test voltage for two layers 3 kV	at the title of	N/A			
-70,	- test voltage for three layers 5,5 kV	Mrs. Mrs. Mrs.	N/A			
BB.K.2.4	Retention of dielectric strength after bending, test as specified under test 13 of 4.6.1 c) of IEC 60 851-5	UNLIER WHILE WHILE	N/A			
ive and	high voltage test immediately after this test	LIFE OLIFE WITE AND	N/A			
at di	2. test voltage for two layers 3 kV	, , , , , , , , , , , , , , , , , , ,	N/A			
- che	3. test voltage for three layers 5,5 kV	LE WILL MULL MULL	N/A			
BB.K.2.5	Resistance to abrasion, test 11 of IEC 60851-3	1 1 1	N/A			

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

BB.26.2 TEST A	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION						
MUT		h three special prepare ted wires, without pott			WILL MILL M	Vrie MV	- sur
cycles 2 x working betwe pri / s	y 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	ies white Lates	JUNIT JUNITER
TEK KITE	4 JALITELLE	antick antick	ier with a	it with	Tex Tex	THE .	LIET

BB.26.2 TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES THROUGH INSULATION					CES	N/A	
NLTEK VI		n three specially prepa or impregnation (P1)	red specimen	s with			MLIEK
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	t whitek	INITES ON
JES WALTER	omit.	unit unit or	alifet and	X CX	n Tex Whitek	ST. THE STATE	ie uni

BB.26.2	TABLE: CREEPAGE DISTANCES AND CLEARANCES AND DISTANCES	N/A
TEST C	THROUGH INSULATION	204

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			IEC 61558-	2-16		
Clause	Requirer	ment + Test	NLTER WAL	Resi	Result - Remark	
		n three specially prepa only dti is required)	ired specimen	s with		t let let
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	Writek Mritek on

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Appendix No. 1: IEC 61558-2-16 / A1: 2013						
Clause	Requirement + Test	Result -Remark	Verdic			
18	Insulation resistance, dielectric strength and leakage current	MULT MILL MILL MILL	P			
18.3	Replacement of the text in footnote a of Table 8a: a For construction according to 26.2.4.1, test B the voltage is multiplied by the factor 1,25. For the construction according to 26.2.4.2 the voltage is multiplied by the factor 1,35.	TEX MITTER MUTEX MUTEX	N/A			
18.102	A partial discharge test according to IEC 60664-1, (test description see below) shall be performed, if FIW 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 of the SMPS, if the secondary side is earthed. The measuring shall be done at 1,0 of the maximum rated input voltage.	Whitek wh	N/A			
19	Construction		⊦ P.			
19.12.3	Replacement: Insulated winding wires, in an insulation system providing basic, supplementary or reinforced insulation, shall meet the following requirements.	White while while while	VP WALTER			
iek _{whid}	Wire that has multi-layer extruded or spirally wrapped insulation (where only the finished wire can be tested) and passes the tests of Annex K.	Certified triple insulation winding	N/A			
21/2	-BASIC INSULATION: two wrapped layers or one extruded layer;	white with white wh	N/A			
312 - 31	-SUPPLEMENTARY INSULATION: two layers, wrapped or extruded;	MALTER WALTER MALE MALE	N/A			
nite whi	-REINFORCED INSULATION: three layers wrapped or extruded.	Rifer unifer unifer unifer	Р			
ek uniter	For spirally wrapped insulation where the CREEPAGE DISTANCES between layers, as wrapped, are less than those given in Clause 26	TER MUTER MUTER MUTER ON	N/A			
NUTER AU	The finished component shall pass ROUTINE TEST for electric strength using the appropriate value of test voltages in 18.3.	WILL WILL WILLEY WHILEY	N/A			
LIEK WALT	a) Where the insulation on the winding wire is used to provide basic-or supplementary insulation in a wound part:	TITEE WHITEE WHITEE	N/A			
ek waltek	b) Where the insulation on the winding wire is used to provide reinforced insulation in a wound part:	Certified triple insulation winding	Р			
White W	an insulation for mechanical separation which fulfil the electric strength test for basic insulation shall be provided between the insulated	Separate with tape	WP.			



Clause	Requirement + Test	Result -Remark	Verdict
AUTER AUT.	wires and the core or between the insulated wires and the enamelled wires. The both windings shall not touch each other and both wires shall not touch the core.	Miles Miles Miles	JULIER JULIER
19.12.101	The transformer which use fully insulated winding wires (FIW), shall only be used up and including insulation class F.	TEX MULTER MULTER MA	N/A
19.12.102	Fully insulated winding wires (FIW) shall comply with IEC 60851-5:2008, IEC 60317-0-7 and IEC 60317-56.	A MILIER WHITE WHITE	N/A
26	Creepage distances, clearances and distances through insulation	white white mer.	W WP
26.107	For transformers with FIW wires the following test is required:	ALTER WALTER WALTER W	N/A
TER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WALTER WAL	Three specimens shall be used. The specimens shall be subjected 10 times	let multer multer uni	N/A
	During each thermal cycling test, a voltage of twice the value of the working voltage at 50 Hz or 60 Hz shall be applied to the specimens between the windings where the reduced values apply.	Whitek whitek whitek	N/A
	Two of the three specimens are then subjected to the humidity treatment of 17.2 (48 h treatment) and the relevant dielectric strength test of 18.3.	the property of	N/A
	One of the three specimens shall be subjected to the relevant dielectric strength test of 18.3 immediately at the end of the last period at highest temperature during the thermal cycling test.	White white white	N/A
	The partial discharge test shall be done at the end of the cycling test at normal room temperature as performed in 18.101.	NIET WALE WALE	N/A
Annex K	Insulated winding wires	in min mer me	N/A
K.1	General	t tet itet site	N/A
K.2	Type tests	Mr. Mr. m.	N/A
K.2.1	General Carried out at a temperature between 15 °C and 35 °C and a relative humidity between 25 % and 75 %, unless otherwise specified.		N/A
K.2.2	Electric strength	- w	N/A
K.2.2.1	Solid circular winding wires and stranded winding wires	er write write wer	N/A
K.2.2.2	Square or rectangular wires	- NIEK MIEK MITE	N/A
K.2.3	Flexibility and adherence	74, 72, 3	N/A

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Appendix No. 1: IEC 61558-2-16 / A1: 2013				
Clause	Requirement + Test	Result -Remark	Verdict	
K.2.4	Heat shock	MULL AND MILE	N/A	
K.2.5	Retention of electric strength after bending	TEX SEX STEX	N/A	
K.3	Testing during manufacturing	me me in	N/A	
K.3.2	Routine test	TER NITER WITE WA	N/A	
	 4,2 kV r.m.s. for reinforced insulation, or – 2,1 kV r.m.s. for basic insulation or supplementary insulation. 	A MULTER MULTER MULT	N/A	
K.3.3	Sampling test	et set set	N/A	
K.3.3.1	Solid circular winding wires and stranded winding wires	Must show the	N/A	
K.3.3.2	Square or rectangular wire	WILL MULL MULL M	N/A	



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Appendix No. 2: National deviation for Australia and New Zealand AS/NZS 61558.2.16:2010 +A1:2010 + A2:2012 + A3:2014 AS/NZS 61558.1:2008 + A1:2009 + A2:2015 Clause Requirement + Test Result -Remark Verdict

ov sate out the variations between this standar				
This annex sets out the variations between this standard and IEC 61558-1 Ed 2.1. For Australia and New Zealand tin.				
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)	See marking plate	TE P		
HEATING AND	m m	N/A		
The temperature of insulated pins of transformers having integral pins for insertion into socket-outlets shall not exceed 70 °C: (AS/NZS 61558.1:2008)	unifet white white w	N/A		
Temperature (°C)	Mr. Mr. Mr. Mr. Mr.	N/A		
Compliance is checked by inserting the transformer, as in normal use into a socket-outlet capable of accepting a 10 A plug complying with Figure 2.1(a) of AS/NZS 3112. The socket-outlet has a horizontal pivot at a distance of 8 mm behind the engagement face of the socket-outlet and in the plane of the lower intersection of the centre lines of the contact apertures. The additional torque which has to be applied to the socket-outlet to maintain the engagement face in the vertical plane shall not exceed 0,25 Nm. (AS/NZS 61558.1:2008)	THE WILLES WHITE W	N/A		
Additional torque (Nm):	TER INLIE WILL WILL	N/A		
Transformers having integral pins for insertion into socket outlets shall comply with the appropriate requirements of AS/NZS 3112. Compliance is checked as specified in Appendix J of AS/NZS 3112 NOTE 1 Clause J.2.2.3 (Internal connections for plug portions) of AS/NZS 3112 is covered by clause 19.6 and clause 21 of this standard. NOTE 2 Clause J.2.2.6.2 (High voltage test) of AS/NZS 3112, except for the test of the insulation of the insulated pins, is covered by clause 18 of this standard. NOTE 3 Clause J.2.2.6.4 (Temperature rise test) of AS/NZS 3112 is covered by clause 14 of this standard NOTE 4 Clause J.2.2.6.7 (Equipment with integral pins intended to be supported by the contacts of a socket-outlet) of AS/NZS 3112 is covered by clause 19.15 of this stand-	AND TEK WALTER W	INTE MILER OF THE STATE OF THE		
	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) HEATING The temperature of insulated pins of transformers having integral pins for insertion into socket-outlets shall not exceed 70 °C: (AS/NZS 61558.1:2008) Temperature (°C)	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) HEATING The temperature of insulated pins of transformers having integral pins for insertion into socket-outlets shall not exceed 70 °C: (AS/NZS 61558.1:2008) Temperature (°C)		



Appendix	No. 2: National deviation for Australia and New	w Zealand			
t set	AS/NZS 61558.2.16:2010 +A1:2010		SET S		
AS/NZS 61558.1:2008 + A1:2009 + A2:2015					
Clause	Requirement + Test	Result -Remark	Verdic		
22	SUPPLY CONNECTION AND OTHER EXTERNAL FLEXIBLE CABLES OR CORDS		P		
22.6	Rating of the transformer shall not exceed 10 A. (AS/NZS 61558.1:2008)	WHITE WHITE WHITE WHITE	MIL P		
22.8	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)	RETEX WHITE WAITER WHITE VA	N/A		
Annex H	ELECTRONIC CIRCUITS	E LIER SLIER MILE MALL	, P		
H.2.1	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)	Whitek whitek whitek whitek	NATER WAL		
antiek an	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)	Max. 0.57% (for model GTM961200P12054-T2) Max. 2.28% (for model GTM961200P12015-T3) Max.2.59% (for model GTM961200P11112-T3)	P		
EL RITE	SPECIAL NATIONAL CONDITIONS	The lift	N/A		
	Australia	Murran Mar Mr. M.	N/A		
8	MARKING AND OTHER INFORMATION	et let let liet	N/A		
8.1	The marking of rated voltage or rated voltage range of single-phase transformers shall cover 240V and 415 V for poly-phase transformers. (AS/NZS 61558.1:2008)	THE WALLEY WALLEY WALLEY	N/A		
IEE SII	New Zealand	at at all of	N/A		
8	MARKING AND OTHER INFORMATION	were mer mer me	N/A		
WALTER VEX	The marking of rated voltage or rated voltage range of single-phase transformers shall cover 230V and 400 V for poly-phase transformers. (AS/NZS 61558.1:2008)	STEEL WHITE WHITEK WHITEK	N/A		

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W

PHOTO:

Model: GTM961200P11112-T3



Photo 1



Photo 2





Photo 3



Photo 4





Photo 5



Photo 6

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W

Model: GTM961200P12015-T3



Photo 7



Photo 8





Photo 9



Photo 10







Photo 11

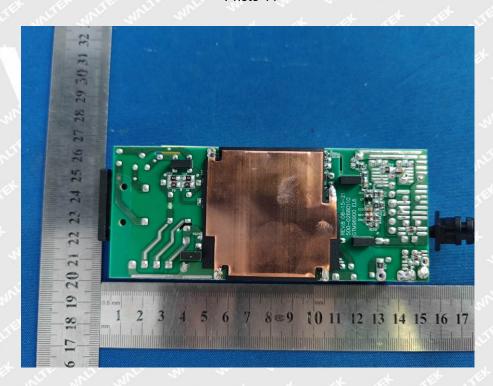


Photo 12

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Model: GTM961200P12054-T2



Photo 13



Photo 14



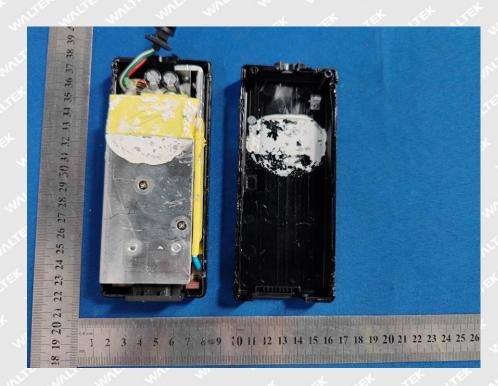


Photo 15



Photo 16

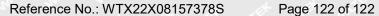




Photo 17



Photo 18





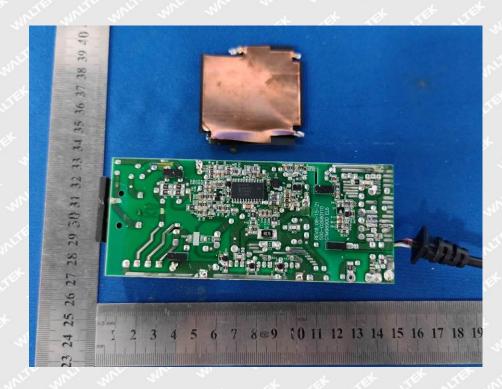


Photo 19

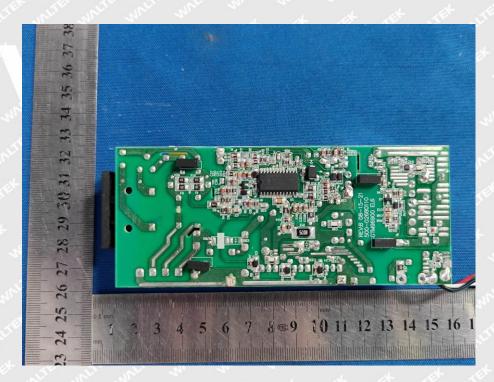


Photo 20

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