

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Name and address of the applicant
Nom et adresse du demandeur

Name and address of the manufacturer
Nom et adresse du fabricant

Name and address of the factory
Nom et adresse de l'usine

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

Trademark (if any)
Marque de fabrique (si elle existe)

Model / Type Ref.
Ref. De type

Additional information (if necessary)

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue partie de ce Certificat

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

KTC - 24, 1gil, Sebang-Cheon, Gunpo-City, Gyeonggi-Do, 435-862, KOREA

Power Over Ethernet Device

MSTronic CO., LTD.

2F., NO.12, Gongshang Rd., Wugu Township Taipei
County 248, Taiwan

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County 248, Taiwan

MSTronic CO., LTD.

2F., NO.12, Gongshang Rd., Wugu Township Taipei
County 248, Taiwan

Input: 100-240 V a.c.; 0,5 A; 47-63 Hz
O/P: See page 2 of test report.



MIT-07XX-1748CC, MIT-07XX-2024CC, MIT-07XX-
1818CC and MIT-07XX-2448CC

PUBLICATION

EDITION

- ☒ IEC 60950-1:2005 (2nd Edition) and/or
☒ EN 60950-1:2006+A11:2009

S114R-003

Seung-In Yang

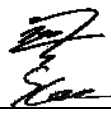
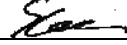


Signature: Seung-In Yang

Date: 2011. 05. 23

**TEST REPORT****IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006****Information technology equipment – Safety –****Part 1: General requirements**

Report Reference No.	S114R-003	
Date of issue	2011-05-19	
Total number of pages	Test Report: 56 pages Attachment 1: 12 pages (European group differences and national differences EN 60950-1:2006+A11:2009) Attachment 2: 5 pages (Photograph) Attachment 3: 15 pages (Document)	
CB/CCA Testing Laboratory	ONETECH Corp	AGR No.: A113A-166
Address	#505 SK Apt. Factory, 223-28 Sangdaewon 1-Dong Jungwon-Gu, Seongnam-City, Kyunggi-Do 462-705, Korea	
Applicant's name	MSTronic CO., LTD.	
Address	2F., NO.12, Gongshang Rd., Wugu Township Taipei County 248, Taiwan	
Manufacturer's name	MSTronic CO., LTD.	
Address	2F., NO.12, Gongshang Rd., Wugu Township Taipei County 248, Taiwan	
Factory's name	MSTronic CO., LTD.	
Address	2F., NO.12, Gongshang Rd., Wugu Township Taipei County 248, Taiwan	
Test specification:		
Standard	☒ IEC 60950-1:2005 (2nd Edition) and/or ☒ EN 60950-1:2006+A11:2009	
Test procedure	CB	
Non-standard test method	N/A	
Test Report Form No.	IECEN60950_1C	
Test Report Form(s) Originator	SGS Fimko Ltd	
Master TRF	Dated 2007-06	
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If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.		
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.		
If this Test Report Form is used by non-CCA members, the CIG logo and the reference to the CCA Procedure shall be removed.		
This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA		

Test item description	Power Over Ethernet Device	
Trade Mark		
Manufacturer	Same as applicant	
Model/Type reference	MIT-07XX-1748CC, MIT-07XX-2024CC, MIT-07XX-1818CC and MIT-07XX-2448CC (Where C can be 0-9, a-z. A-Z or blank and X can be D, T, R, C, H or blank, D means signal detector and T means signal processor, R means reverse, H means hi-temp and C means current indicator. CC means different parts suppliers)	
Ratings	Input: 100-240 V a.c.; 0,5 A; 47-63 Hz Output: MIT-07XX-1748CC; +48 V d.c. / 0,35 A / 17 W MIT-07XX-2024CC; +24 V d.c. / 0,8 A / 20 W MIT-07XX-1818CC; +18 V d.c. / 1,0 A / 18 W MIT-07XX-2448CC; +48 V d.c. / 0,5 A / 24 W	
Testing procedure and testing location:		
☒ CB/CCA Testing Laboratory:	ONETECH Corp	
Testing location/ address	#505 SK Apt. Factory, 223-28 Sangdaewon 1-Dong Jungwon-Gu, Seongnam-City, Kyunggi-Do 462-705, Korea	
☐ Associated CB Laboratory:	N/A	
Testing location/ address	N/A	
Tested by (name + signature) :	J. W. Lee	
Approved by (+ signature).....:	S. K. Lee	
☐ Testing procedure: TMP		
Tested by (name + signature).....:	N/A	
Approved by (+ signature).....:	N/A	
Testing location/ address	N/A	
☐ Testing procedure: WMT		
Tested by (name + signature).....:	N/A	
Witnessed by (+ signature)	N/A	
Approved by (+ signature).....:	N/A	
Testing location/ address	N/A	
☐ Testing procedure: SMT		
Tested by (name + signature).....:	N/A	
Approved by (+ signature).....:	N/A	
Supervised by (+ signature).....:	N/A	
Testing location/ address	N/A	



☐	Testing procedure: RMT	
	Tested by (name + signature).....:	N/A
	Approved by (+ signature).....:	N/A
	Supervised by (+ signature).....:	N/A
	Testing location/ address	N/A

Summary of testing:

Tests performed (name of test and test clause):

Clause 2.6.3.4 – Earthing Test

Testing location:

ONETECH Corp
#505 SK Apt. Factory, 223-28 Sangdaewon 1-Dong
Jungwon-Gu, Seongnam-City, Kyunggi-Do
462-705, Korea

Summary of compliance with National Differences:

- The appliance fulfils the requirements of the standard IEC 60950-1:2005 and EN 60950-1:2006+A11:2009.

Copy of marking plate

MIT-07-1748

AC Input		DC Output	
100-240Vac 0.5A,47-63Hz		48V/0.35A L.P.S	
Pin	RJ45 Input	RJ45 Output	
4	NC	Vdc(+)	
5	NC	Vdc(+)	
7	NC	Vdc(-)	
8	NC	Vdc(-)	





S/N: 

MADE IN TAIWAN

MIT-07-1818

AC Input		DC Output	
100-240Vac 0.5A,47-63Hz		18V/1.0A L.P.S	
Pin	RJ45 Input	RJ45 Output	
4	NC	Vdc(+)	
5	NC	Vdc(+)	
7	NC	Vdc(-)	
8	NC	Vdc(-)	





S/N: 

MADE IN TAIWAN

MIT-07-2024

AC Input		DC Output	
100-240Vac 0.5A,47-63Hz		24V/0.8A L.P.S	
Pin	RJ45 Input	RJ45 Output	
4	NC	Vdc(+)	
5	NC	Vdc(+)	
7	NC	Vdc(-)	
8	NC	Vdc(-)	





S/N: 

MADE IN TAIWAN

MIT-07-2448

AC Input		DC Output	
100-240Vac 0.5A,47-63Hz		48V/0.5A L.P.S	
Pin	RJ45 Input	RJ45 Output	
4	NC	Vdc(+)	
5	NC	Vdc(+)	
7	NC	Vdc(-)	
8	NC	Vdc(-)	





S/N: 

MADE IN TAIWAN

“The above labels are drafts of an artwork for marking plate pending approval by national Certification Bodies and it shall not be affixed to products prior to such an approval”

Test item particulars	
Equipment mobility	☒ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	-10 %, +10 %
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	230 V for Norway
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating (A)	16 A
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Up to 2000 m
Altitude of test laboratory (m)	Approx. 200 m
Mass of equipment (kg)	0,13 kg
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing:	
Date of receipt of test item	2011-04-05
Date(s) of performance of tests	2011-04-06 to 2011-04-21

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.

Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.

Throughout this report a comma is used as the decimal separator.

Remark – History of amendments and modifications:

1. Basic CB Ref. Cert. No. KR-KETI0835 (Test Report Ref. No.: S08OR-019), dated 2008-12-01.
2. This report is for standards update (IEC 60950-1:2001 (1st Edition) and/or EN 60950-1:2001 to IEC 60950-1:2005 (2nd Edition) and/or EN 60950-1:2006+A11:2009) and change of varistor (ZP1) and addition of optical isolator (PL1).

General product information:

- Power over Ethernet device is used for information technology network equipment. The device supplies DC power and connects Ethernet network equipments, such as the Access Point, Hub, Router, Personal computer and so on.
- Power over Ethernet considered a Network Environment 0 per IEC TR 62102, and thus the interconnected ITE circuits may be considered SELV. The installation instructions clearly state that the ITE is to be connected only to PoE networks without routing to the outside plant.
- All models are similar except for the output voltage and different transformers (T1), output diode, capacitor used.
- The maximum ambient temperature permitted by manufacturer(Tma): 50 °C
- Name and address of the Production-Sites (Factory):
Same as applicant.
- Attachment contents:
Attachment 1: European group differences and national differences EN 60950-1:2006+A11:2009.
Attachment 2: Photograph.
Attachment 3: Document.

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components which are not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard. Component, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	P
1.5.3	Thermal controls	No Thermal controls.	N/A
1.5.4	Transformers	Transformer used is suitable for its intended application and complies with the relevant requirements of standard and Annex C.	P
1.5.5	Interconnecting cables	The interconnecting cables contain only SELV.	P
1.5.6	Capacitors bridging insulation	Primary and secondary bridged by one capacitor was certified as Y1 capacitor according to IEC 60384-14. (see appended table 1.5.1)	P
1.5.7	Resistors bridging insulation	No bridging resistors.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	Components in equipment for IT power systems	All the sources of the capacitor connected between primary and earth rated 250 V.	P
1.5.9	Surge suppressors		P
1.5.9.1	General	(see appended table 1.5.1)	P
1.5.9.2	Protection of VDRs	A fuse is connected in series with the VDR.	P
1.5.9.3	Bridging of functional insulation by a VDR	Approved varistor located between mains lines.	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems	TN power system. IT power system for Norway.	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	This appliance is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	P

1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V)	100-240 V a.c.	P
	Symbol for nature of supply, for d.c. only	The equipment is for a.c. supply.	N/A
	Rated frequency or rated frequency range (Hz) ...	47-63 Hz	P
	Rated current (mA or A)	0,5 A	P
	Manufacturer's name or trade-mark or identification mark		P
	Model identification or type reference	(see copy of marking plate)	P
	Symbol for Class II equipment only	Class I equipment.	N/A
	Other markings and symbols	(see copy of marking plate)	P
1.7.2	Safety instructions and marking		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	General	The user's manual contains information for operation, installation and technical.	P
1.7.2.2	Disconnect devices	Appliance inlet is provided as disconnection device.	N/A
1.7.2.3	Overcurrent protective device	Pluggable equipment type A.	N/A
1.7.2.4	IT power distribution systems	For Norway compliance has to be evaluated during the national approved.	N/A
1.7.2.5	Operator access with a tool	No operator access with a tool.	N/A
1.2.7.6	Ozone	Not produce ozone.	N/A
1.7.3	Short duty cycles	Unit is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	Unit is auto-ranging type. No supply voltage adjustment device.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse marking printed adjacent to the fuse reads as F1 T1AH/ 250V	P
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals	Appliance inlet provided.	P
1.7.7.2	Terminals for a.c. mains supply conductors	The equipment is provided with an appliance inlet for connection of a detachable type power supply cord.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		P
1.7.8.1	Identification, location and marking	The marking and indication of the safety is located that indication of function is clearly.	P
1.7.8.2	Colours	The colours of the LED stand-by indicator are as follows: green – ON condition	P
1.7.8.3	Symbols according to IEC 60417	No symbols used.	N/A
1.7.8.4	Markings using figures	No controls use figures.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.9	Isolation of multiple power sources	Equipment designed for only one connection to the mains.	N/A
1.7.10	Thermostats and other regulating devices	No thermostats or other regulating devices.	N/A
1.7.11	Durability	The marking withstand the required test.	P
1.7.12	Removable parts	No removable parts.	N/A
1.7.13	Replaceable batteries	No replaceable batteries in the equipment.	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	The unit is not intended to be used in restricted locations.	N/A

2	PROTECTION FROM HAZARDS		
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts	No access with test finger to any parts with hazardous voltage. The test pin can not touch hazardous voltage through any seams within the appliance.	P
	Test by inspection	No access with test finger to any parts with hazardous voltage.	P
	Test with test finger (Figure 2A)	No access with test finger to any parts with hazardous voltage.	P
	Test with test pin (Figure 2B)	The test pin can not touch hazardous voltage through any seams within the appliance.	P
	Test with test probe (Figure 2C)	No TNV circuits.	N/A
2.1.1.2	Battery compartments	No battery compartments.	N/A
2.1.1.3	Access to ELV wiring	SELV circuits, no ELV wiring in operator accessible area.	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.4	Access to hazardous voltage circuit wiring	All accessible parts are separated from internal wiring at hazardous voltage by double or reinforced insulation, complying with 3.1.4.	P
2.1.1.5	Energy hazards	There are no hazardous energy levels in this product.	P
2.1.1.6	Manual controls	No such controls.	N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s)..... :	4 V at 1 s.	—
2.1.1.8	Energy hazards – d.c. mains supply	Not for d.c. mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply .. :		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No audio amplifiers.	N/A
2.1.2	Protection in service access areas	No energy hazards of service access areas.	N/A
2.1.3	Protection in restricted access locations	The unit is not intended to be used in restricted locations.	N/A
2.2	SELV circuits		P
2.2.1	General requirements		P
2.2.2	Voltages under normal conditions (V)	All accessible voltage are less 42,4 V peak or 60 V d.c. and are classified as SELV. MIT-07XX-2448CC: 56 V d.c. MIT-07XX-2024CC: 36 V d.c. MIT-07XX-1818CC: 28 V d.c.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.3	Voltages under fault conditions (V)	Single fault did not cause excessive voltage in accessible SELV circuits. The limits of 71 V peak and 120 V d.c. were not exceed. Furthermore the SELV limits (see 2.2.2) were not exceeded for longer than 0,2 seconds. MIT-07XX-2448CC: D3 short: Immediately output shutdown. MIT-07XX-2024CC: D3 short: Immediately output shutdown. MIT-07XX-1818CC: D3 short: Immediately output shutdown.	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits.	P

2.3	TNV circuits		N/A
2.3.1	Limits	No TNV circuits.	N/A
	Type of TNV circuits.....		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		P
2.4.1	General requirements		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.4.2	Limit values	0,7 mA. (measuring instrument D.2 is used)	P
	Frequency (Hz)		—
	Measured current (mA)	0,14 mA.	—
	Measured voltage (V).....		—
	Measured circuit capacitance (nF or μ F).....	C9; 1000 pF	—
2.4.3	Connection of limited current circuits to other circuits	Complied.	P
2.5	Limited power sources		P
	a) Inherently limited output		P
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		P
	d) Overcurrent protective device limited output		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Max. output voltage (V), max. output current (A), max. apparent power (VA)	[MIC-07XX-1748CC] (Normal) 49,2 Uoc; 0,86 Isc; 42,7 VA (ZD1 short) 49,2 Uoc; 0,87 Isc; 43,1 VA (R15 short) 49,2 Uoc; 1,9 Isc; 95,2 VA (R12 short) 49,2 Uoc; 0,52 Isc; 28,7 VA [MIC-07XX-2024CC] (Normal) 24,5 Uoc; 1,56 Isc; 38,02 VA (ZD1 short) 24,5 Uoc; 1,59 Isc; 39,41 VA (R15 short) 24,5 Uoc; 2,6 Isc; 62,29 VA (R12 short) 24,5 Uoc; 1,04 Isc; 25,82 VA [MIC-07XX-1818CC] (Normal) 18,62 Uoc; 2,45 Isc; 25,12 VA (ZD1 short) 18,62 Uoc; 2,48 Isc; 25,44 VA (R15 short) 18,62 Uoc; 3,04 Isc; 54,47 VA (R12 short) 18,62 Uoc; 1,8 Isc; 21,14 VA [MIC-07XX-2448CC] (Normal) 48,9 Uoc; 0,8 Isc; 38,76 VA (ZD1 short) 48,9 Uoc; 0,82 Isc; 38,96 VA (R15 short) 48,9 Uoc; 1,8 Isc; 84,5 VA (R12 short) 48,9 Uoc; 0,62 Isc; 29,3 VA	—
	Current rating of overcurrent protective device (A) ..		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Parts of SELV circuit connected to protective earthing, refer to sub-clause 2.6.3.4.	P
2.6.2	Functional earthing	Considered.	P
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.2	Size of protective earthing conductors		P
	Rated current (A), cross-sectional area (mm ²), AWG..... :	0,5 A; Min. 0,75 mm ² ; 18 AWG	—
2.6.3.3	Size of protective bonding conductors	In compliance with 2.6.3.4.	P
	Rated current (A), cross-sectional area (mm ²), AWG..... :		—
	Protective current rating (A), cross-sectional area (mm ²), AWG..... :		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..... :	From the appliance inlet to the accessible conductive parts: 0,02 Ω ; 0,64 V; 32 A; 2 min	P
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		P
2.6.4.1	General	The equipment provided with an appliance inlet.	P
2.6.4.2	Protective earthing and bonding terminals	Appliance inlet is used as protective earthing terminal and meet the test requirement of 2.6.3.4.	P
	Rated current (A), type, nominal thread diameter (mm)..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Protective earthing conductor is in appliance inlet.	P
2.6.5	Integrity of protective earthing		P
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device in protective earthing or bonding conductor.	P
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	P
2.6.5.4	Parts that can be removed by an operator	Plug or inlet, earthing connected is made before and broken after the hazardous voltage. No other operator removable parts.	P
2.6.5.5	Parts removed during servicing	No protective earth connection needs to be removed for servicing.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.6	Corrosion resistance	No risk of corrosion.	P
2.6.5.7	Screws for protective bonding	No such screws are used.	N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	The equipment relies on a 16 A (20 A for North America) rated fuse or circuit breaker of the wall outlet protection of the building installation in regard to L to N short-circuits. Overcurrent protection is provided by the built-in fuse.	P
	Instructions when protection relies on building installation	Pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	The protection device is well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A, the building installation is considered as providing short circuit backup protection.	P
2.7.4	Number and location of protective devices	Overcurrent protection by one built-in fuse. Protection devices in the building installation will provide sufficient protection against earth faults.	P
2.7.5	Protection by several devices	Only one fuse provided.	N/A
2.7.6	Warning to service personnel	No service work necessary.	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlocks.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation.	P
2.9.2	Humidity conditioning		P
	Relative humidity (%), temperature (°C)	93 %; 25 °C	—
2.9.3	Grade of insulation	Insulation materials comply with requirements of sub-clauses 2.10; 4.5.1 and 5.2.	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used	Method 1	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	EUT Frequency under 30 kHz.	P
2.10.1.2	Pollution degrees	Pollution degree 2.	P
2.10.1.3	Reduced values for functional insulation	Function insulation verified by short-circuit tests according 5.3.4 c)	P
2.10.1.4	Intervening unconnected conductive parts		P
2.10.1.5	Insulation with varying dimensions	No such transformer used.	N/A
2.10.1.6	Special separation requirements	Special separation is not used.	N/A
2.10.1.7	Insulation in circuits generating starting pulses	No insulation in circuit generating starting pulses.	N/A
2.10.2	Determination of working voltage		P
2.10.2.1	General		P
2.10.2.2	RMS working voltage	(see appended table 2.10.3 and 2.10.4)	P
2.10.2.3	Peak working voltage	(see appended table 2.10.3 and 2.10.4)	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply	Overvoltage category II for primary circuit and transient voltage 2500 V peak.	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits	Function insulation verified by short-circuit tests according 5.3.4 c)	P
2.10.3.5	Clearances in circuits having starting pulses	No such circuit.	N/A
2.10.3.6	Transients from a.c. mains supply	Overvoltage Category II ; Mains transient voltage is 1500 V peak.	P
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	Not connected to telecommunication networks and cable distribution systems.	N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply	Measurement not relevant.	N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :	Not connected to telecommunication networks.	N/A
2.10.4	Creepage distances		P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests.....	Material group IIIb is assumed to be used.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		P
2.10.5.1	General		P
2.10.5.2	Distances through insulation	(see appended table 2.10.5)	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.3	Insulating compound as solid insulation	No such construction used.	N/A
2.10.5.4	Semiconductor devices	Certified optocoupler. (see appended table 1.5.1)	P
2.10.5.5.	Cemented joints	Not used.	N/A
2.10.5.6	Thin sheet material – General		P
2.10.5.7	Separable thin sheet material	Insulation tape for transformer (T1)	P
	Number of layers (pcs)..... :	3 layers.	—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		P
	Electric strength test	3000 V a.c. of 2 layers.	—
2.10.5.11	Insulation in wound components	Certified triple insulated winding wire used as secondary winding of transformer T1. (see appended table 1.5.1)	P
2.10.5.12	Wire in wound components	Insulation on winding wire on T1 complies with Annex U.	P
	Working voltage	(see appended table 2.10.3 and 2.10.4)	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		P
	c) Compliance with Annex U	Certified triple insulated winding wire used. (see appended table 1.5.1)	P
	Two wires in contact inside wound component; angle between 45° and 90°	Protected to against mechanical stress by polyester tape.	P
2.10.5.13	Wire with solvent-based enamel in wound components	No wire with solvent-based enamel in wound components.	N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components	No additional insulation used.	N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.6	Construction of printed boards		P
2.10.6.1	Uncoated printed boards	Considered. (see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) :		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components	No special coating in order to reduce distance.	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling	No special insulation in order to reduce distance.	N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Certified optocoupler. (see appended table 1.5.1)	P
2.10.11	Tests for semiconductor devices and cemented joints	No such device used.	N/A
2.10.12	Enclosed and sealed parts	Certified optocoupler. (see appended table 1.5.1)	P

3	WIRING, CONNECTIONS AND SUPPLY		
3.1	General		P
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	P
3.1.2	Protection against mechanical damage	Smooth and free of sharp edges.	P
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulations.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltage involved. (see appended table 5.2)	P
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N/A
3.1.6	Screws for electrical contact pressure	No electrical contact pressure by screwed connection.	N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	No self-tapping screws are used.	N/A
3.1.9	Termination of conductors	Terminations can not become displaced so that clearances and creepage distances can be reduced.	P
	10 N pull test	Force of 10 N applied to the termination points of the conductors.	P
3.1.10	Sleeving on wiring		N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply	Appliance inlet.	P
3.2.1.2	Connection to a d.c. mains supply	Not connect to d.c. mains.	N/A
3.2.2	Multiple supply connections	Only one supply connection.	N/A
3.2.3	Permanently connected equipment	This unit is not permanently connected equipment.	N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets	The appliance inlet complies with IEC/EN 60320-1. (see appended table 1.5.1)	P
3.2.5	Power supply cords	No power supply cords provided.	N/A
3.2.5.1	AC power supply cords		N/A
	Type		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords	Not connect to d.c. mains.	N/A
3.2.6	Cord anchorages and strain relief	No non-detachable power supply cords provided.	N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards	Not hand-held or non-detachable equipment.	N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space	Not permanently or non-detachable equipment.	N/A
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Appliance inlet used.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Appliance inlet is provided as disconnection device.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.4	Parts which remain energized	When the EUT is disconnected from mains, no remaining parts at hazardous voltage in the equipment.	N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Both poles are disconnected simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single-phase equipment.	N/A
3.4.8	Switches as disconnect devices	No such device provided.	N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment	No interconnections using hazardous voltages.	N/A
3.4.11	Multiple power sources	Only one supply source.	N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits	SELV to SELV	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A
3.5.4	Data ports for additional equipment		N/A
4	PHYSICAL REQUIREMENTS		
4.1	Stability		P
	Angle of 10°	No overbalance or hazard.	P
	Test force (N)		N/A
4.2	Mechanical strength		P
4.2.1	General		P
4.2.2	Steady force test, 10 N	No hazard. The test is performed at all components other than enclosure.	P
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	No hazard. The test is performed at all sides of enclosure.	P
4.2.5	Impact test		P
	Fall test	No hazard as result from steel ball impact test.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Swing test	No hazard as result from steel ball impact test.	P
4.2.6	Drop test; height (mm)		N/A
4.2.7	Stress relief test	For the plastic enclosure after 7 h at 85,2 °C and cooling down to room temperature. No shrinkage, distortion or loosening of any enclosure part was noticeable on the equipment.	P
4.2.8	Cathode ray tubes	No cathode ray tubes.	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps in the equipment.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N)	No such handles and manual controls.	N/A
4.3.3	Adjustable controls	No adjustable controls.	N/A
4.3.4	Securing of parts	Enclosures are mechanical or screws fixed used.	P
4.3.5	Connection by plugs and sockets	Not provided with plugs and sockets.	N/A
4.3.6	Direct plug-in equipment	No direct plug-in equipment.	N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	No heating elements in the equipment.	N/A
4.3.8	Batteries	No batteries in the equipment.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No oil and grease.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids	The equipment does not contain flammable liquid.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	The equipment does not generate ionizing radiation.	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Laser (including LEDs)	The LED used for functional indicator.	N/A
	Laser class		—
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No hazardous moving parts.	N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L	L.7	—

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Clause	Requirement + Test	Result - Remark	Verdict

4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	(see appended table 4.5.5)	P

4.6	Openings in enclosures		P
4.6.1	Top and side openings		P
	Dimensions (mm)	No openings.	—
4.6.2	Bottoms of fire enclosures	Fire enclosure construction is considered to comply with the requirements.	P
	Construction of the bottom, dimensions (mm) ...	No openings.	—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials	Use of materials with the required flammability class for outer plastic enclosure as fire enclosure. (see appended table 1.5.1)	P
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	P
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.2	Materials for fire enclosures	Components and materials have adequate flammability classification. (see appended table 1.5.1)	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No such components.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		P
4.7.3.5	Materials for air filter assemblies	No air filter in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage component.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		
5.1	Touch current and protective conductor current		P
5.1.1	General		P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument	Measuring instrument D.1 is used.	P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V)	264 V a.c.	—
	Measured touch current (mA)	0,16 mA	—
	Max. allowed touch current (mA)	3,5 mA	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA) ..		—
5.1.7	Equipment with touch current exceeding 3,5 mA	The touch current does not exceed 3,5 mA.	N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	Not connected to a telecommunication network.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	No motors.	N/A
5.3.3	Transformers	(see appended Annex C)	P
5.3.4	Functional insulation	c) applied.	P
5.3.5	Electromechanical components	No electromechanical components.	N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment	No thermostat, temperature limiter or thermal cut-off.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests.	P
5.3.9.2	After the tests	No reduction of clearance and creepage distances. Electric strength test is made on basic, supplementary and reinforced insulation.	P

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Clause	Requirement + Test	Result - Remark	Verdict
6	CONNECTION TO TELECOMMUNICATION NETWORKS		
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements	No TNV circuits.	N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		
7.1	General	Not connected to a cable distribution system.	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm).....		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
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Clause	Requirement + Test	Result - Remark	Verdict
	Position	Primary to Secondary. (see appended table 1.5.1)	—
	Manufacturer	(see appended table 1.5.1)	—
	Type	(see appended table 1.5.1)	—
	Rated values	(see appended table 1.5.1)	—
	Method of protection	Regulating network.	—
C.1	Overload test	(see appended table 5.3)	P
C.2	Insulation	(see appended table 5.2)	P
	Protection from displacement of windings	Barrier tape and bobbin	P
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	(see appended table 1.6.2)	P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories	(see appended table 1.5.1)	P
	b) Maximum continuous voltage	(see appended table 1.5.1)	P
	c) Pulse current	(see appended table 1.5.1)	P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Certified triple insulated wire used. (see appended table 1.5.1)	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		N/A
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—

EN 60950-1:2006 – CENELEC COMMON MODIFICATIONS						
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations					P
General	Delete all the “country” notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6. 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2					P
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.					N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC					P

IEC/EN 60950-1															
Clause	Requirement + Test	Result - Remark	Verdict												
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss		N/A												
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		P												
2.7.2	This subclause has been declared 'void'.		P												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A												
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: <table border="1"> <tr> <td>Up to and including 6</td><td></td><td>0,75^{a)}</td><td></td></tr> <tr> <td>Over 6 up to and including 10</td><td>(0,75)^{b)}</td><td>1,0</td><td></td></tr> <tr> <td>Over 10 up to and including 16</td><td>(1,0)^{c)}</td><td>1,5</td><td></td></tr> </table> In the conditions applicable to Table 3B delete the words "in some countries" in condition^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5			N/A
Up to and including 6		0,75 ^{a)}													
Over 6 up to and including 10	(0,75) ^{b)}	1,0													
Over 10 up to and including 16	(1,0) ^{c)}	1,5													
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: <table border="1"> <tr> <td>Over 10 up to and including 16</td><td>1,5 to 2,5</td><td>1,5 to 4</td><td></td></tr> </table> Delete the fifth line: conductor sizes for 13 to 16 A.	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4			N/A								
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4													

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μ Sv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—
ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—

ZB	SPECIAL NATIONAL CONDITIONS	P
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	N/A
1.7.2.1	In Finland, Norway and Sweden , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"	P

IEC/EN 60950-1																											
Clause	Requirement + Test	Result - Remark	Verdict																								
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.		N/A																								
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		P																								
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A																								
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A																								
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A																								
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A																								
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A																								
3.2.1.1	In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: <table> <tr> <td>SEV 6532-2.1991</td><td>Plug Type 15</td><td>3P+N+PE</td><td>250/400 V, 10 A</td></tr> <tr> <td>SEV 6533-2.1991</td><td>Plug Type 11</td><td>L+N</td><td>250 V, 10 A</td></tr> <tr> <td>SEV 6534-2.1991</td><td>Plug Type 12</td><td>L+N+PE</td><td>250 V, 10 A</td></tr> </table> In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: <table> <tr> <td>SEV 5932-2.1998</td><td>Plug Type 25</td><td>3L+N+PE</td><td>230/400 V, 16 A</td></tr> <tr> <td>SEV 5933-2.1998</td><td>Plug Type 21</td><td>L+N</td><td>250 V, 16 A</td></tr> <tr> <td>SEV 5934-2.1998</td><td>Plug Type 23</td><td>L+N+PE</td><td>250 V, 16 A</td></tr> </table>	SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A	SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A	SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A	SEV 5932-2.1998	Plug Type 25	3L+N+PE	230/400 V, 16 A	SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A	SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A		N/A
SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A																								
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SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A																								
SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A																								
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A																								

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm² to 1,5 mm² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland, DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden , there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.		N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.		N/A
ZC	A-DEVIATIONS (informative)		N/A
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	Denmark (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
1.7.5	Denmark (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Enclosure (Plastic)	Chi Mei Corporation	PA-765A(+)	V-1; 80 °C; Min. 1,5 mm thickness	UL 94 UL 746	UL (E56070)	
Alt.	Sabic Innovative Plastics B V (or Japan and US)	C6200(GG)	V-0; 75 °C; Min. 1,5 mm thickness	UL 94 UL 746	UL (E45329) (E45587) (E121562)	
Alt.	Teijin Polycarbonate Singapore Pte Ltd	LN-1250G#(f1)*	V-0; 105 °C; Min. 1,0 mm thickness	UL 94 UL 746	UL (E195100)	
PCB	Various	Variuos	Rated V-1 or better 130 °C	UL 796	UL	
Appliance Inlet (P1)	Supercom Electronics Co., Ltd.	SC-14	250 V a.c.; 2,5 A; 70 °C	EN 60320-1	FIMKO	

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Fuse (F1)	Conquer electronics	PTU	250 V a.c.; T1AH	EN 60127-1 EN 60127-2	VDE
Bleeder resistors (R1,R2)	Various	Various	1/4 W; 1 M Ω (SMD type)	IEC 60950-1	Tested in equipment
Varistor (ZP1)	Joyin Company Ltd.	JVR14N471K	Climatic category: -40/85/56 Maximum continuous voltage: 300 V a.c. Current pulse rating: 6 kV/3 kA	IEC 61051-1 IEC 61051-2 IEC 61051-2-2 CECC 42000 CECC 42200 CECC 42201 IEC 60065 Clause 14.12 and IEC 60950-1 Annex Q	VDE Tested in unit
Alt.	Centra Science Corp.	CNR14D471K	Climatic category: -40/85/56 Maximum continuous voltage: 300 V a.c. Current pulse rating: 6 kV/3 kA	CECC 42000 CECC 42200 CECC 42201 IEC 60065 Clause 14.12 and IEC 60950-1 Annex Q	VDE Tested in unit
Y-capacitor (C2,C3)	TDK	CS	250 Va.c.; 1000 pF; Y2; 125 °C	EN 60384-14	VDE FIMKO
Bridging Capacitor (C9)	Panasonic Corporation (Matsushita)	NS-A	250 Va.c.; 1000 pF; Y1; 125 °C	EN 60384-14	VDE FIMKO
X-capacitor (C1)	Cheng Tung Industrial	CTX	300 V a.c.; 0,47 μ F; X1; 100 °C	IEC 60384-14	VDE FIMKO
Line Choke (L1)	Taiwan Transmore Electronics Co., Ltd.	UU10.5	130 °C	IEC 60950-1	Tested in equipment
Transformer (T1 for Model MIT-07XX-1818CC)	Taiwan Transmore Electronics Co., Ltd.	13-01MIT07-18V5	Class B	IEC 60950-1	Tested in equipment
Transformer (T1 for Model MIT-07XX-2024CC)	Taiwan Transmore Electronics Co., Ltd.	13-01MIT07-24V5	Class B	IEC 60950-1	Tested in equipment

IEC/EN 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Transformer (T1 for Models MIT-07XX-1748CC and MIT-07XX-2448CC)	Taiwan Transmore Electronics Co., Ltd.	13-01MIT07-48V	Class B	IEC 60950-1	Tested in equipment
Triple insulation wire (Use in all Transformer)	Furukawa Electric Co. Ltd.	TEX-E	Reinforced insulation Class E (120 °C)	IEC 60950-1 EN 60950-1	VDE
Optical Isolator (PL1)	Sharp Corporation	PC123	Di = 0,7 mm Int = 5,0 mm Ext = 8,0 mm	EN 60950-1	FIMKO
Alt.	Lite-On Technology Corporation	LTV817	Di = 0,8 mm; Int dcr = 5,2 mm Ext dcr = 0,8 mm	IEC 60950-1 EN 60950-1	FIMKO
Alt.	Everlight Electronics Co., Ltd.	EL817.	Di = 0,5 mm Int = 6,0 mm Ext = 7,7 mm	EN 60950-1	FIMKO
N-MOSFET (Q1)	Various	Various	Rated Min. 9 A; Min. 600 V a.c.; 130 °C	IEC 60950-1	Tested in equipment
Bridge Rectifier (BD1)	Various	Various	Rated Min. 1 A; Min. 600 V a.c.; 130 °C	IEC 60950-1	Tested in equipment
Insulating Tape	3M Company Electrical Markets Div (EMD)	1350-1(b)*	130 °C	UL 510	UL (E17385)
Mylar-Sheet	Various	Variours	VTM-2, 105 °C	UL 94	UL
¹) An asterisk indicates a mark which assures the agreed level of surveillance					
Supplementary information:					

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0,403	-	22,6	F1	0,403	47 Hz / Max. Normal Load
90	0,402	-	22,5	F1	0,402	63 Hz / Max. Normal Load
100	0,359	0,5	22,2	F1	0,359	47 Hz / Max. Normal Load
100	0,364	0,5	22,2	F1	0,364	63 Hz / Max. Normal Load
240	0,206	0,5	22,2	F1	0,206	47 Hz / Max. Normal Load
240	0,205	0,5	22,2	F1	0,205	63 Hz / Max. Normal Load
264	0,194	-	22,3	F1	0,194	47 Hz / Max. Normal Load
264	0,192	-	22,3	F1	0,192	63 Hz / Max. Normal Load
Supplementary information:						
Model: MIT-07XX-1818CC						
Maximum Normal Load: Output loaded (+18 V d.c. / 1,0 A / 18 W)						

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0,434	-	24,0	F1	0,434	47 Hz / Max. Normal Load
90	0,421	-	23,7	F1	0,421	63 Hz / Max. Normal Load
100	0,378	0,5	23,4	F1	0,378	47 Hz / Max. Normal Load
100	0,380	0,5	23,4	F1	0,380	63 Hz / Max. Normal Load
240	0,211	0,5	23,0	F1	0,211	47 Hz / Max. Normal Load
240	0,213	0,5	23,1	F1	0,213	63 Hz / Max. Normal Load
264	0,202	-	23,4	F1	0,202	47 Hz / Max. Normal Load
264	0,201	-	23,4	F1	0,201	63 Hz / Max. Normal Load
Supplementary information:						
Model: MIT-07XX-2024CC						
Maximum Normal Load: Output loaded (+24 V d.c. / 0,8 A / 20 W)						

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0,369	-	20,8	F1	0,369	47 Hz / Max. Normal Load
90	0,372	-	20,7	F1	0,372	63 Hz / Max. Normal Load
100	0,332	0,5	20,5	F1	0,332	47 Hz / Max. Normal Load
100	0,340	0,5	20,5	F1	0,340	63 Hz / Max. Normal Load
240	0,198	0,5	20,9	F1	0,198	47 Hz / Max. Normal Load
240	0,195	0,5	20,8	F1	0,195	63 Hz / Max. Normal Load
264	0,187	-	21,3	F1	0,187	47 Hz / Max. Normal Load
264	0,187	-	21,3	F1	0,187	63 Hz / Max. Normal Load
Supplementary information:						
Model: MIT-07XX-1748CC						
Maximum Normal Load: Output loaded (+48 V d.c. / 0,35 A / 17 W)						

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
90	0,557	-	30,7	F1	0,557	47 Hz / Max. Normal Load
90	0,539	-	30,5	F1	0,539	63 Hz / Max. Normal Load
100	0,487	0,5	301	F1	0,487	47 Hz / Max. Normal Load
100	0,475	0,5	299	F1	0,475	63 Hz / Max. Normal Load
240	0,256	0,5	293	F1	0,256	47 Hz / Max. Normal Load
240	0,266	0,5	29,4	F1	0,266	63 Hz / Max. Normal Load
264	0,244	-	29,7	F1	0,244	47 Hz / Max. Normal Load
264	0,251	-	29,7	F1	0,251	63 Hz / Max. Normal Load
Supplementary information:						
Model: MIT-07XX-2448CC						
Maximum Normal Load: Output loaded (+48 V d.c. / 0,5 A / 24 W)						

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Functional:							
Live to Neutral (before fuse)	340	240	2,0	2,7	2,5	2,7	

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

Basic/supplementary:						
Trace between F1 two leads	< 420	< 250	2,0	14,5	2,5	14,5
Trace between line to neutral	< 420	< 250	2,0	7,0	2,5	10,9
Primary trace to earth trace	< 420	< 250	2,0	3,5	2,5	6,5
Reinforced:						
C4 to P2	< 420	< 250	4,0	5,3	5,0	9,5
L1 to P2	< 420	< 250	4,0	8,7	5,0	13,8
under PL1	< 420	< 250	4,0	5,0	5,0	8,0
under T1(Pin 2 to pin 6)	504	222	4,4	4,6	5,0	8,3
Supplementary information: 1. There are two mylar sheets min. 94 V-0, located between primary and secondary circuits. 2. C4 is fixed on position by glued with BD1. 3. T1 is further covered with insulating tube. 4. There is a mylar sheet between P1, P2 and L1. 5. There is a mylar sheet between P4 and BD1. 6. There are 3 grooves over 1.0 mm wide between primar and secondary components.						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Optical isolator (PL1)		< 420	< 250	3000 V a.c.	0,4	0,5
Mylar sheet		< 420	< 250	3000 V a.c.	0,4	> 0,4
Supplementary information: Certified optocoupler (see appended table 1.5.1)						

IEC/EN 60950-1									
Clause	Requirement + Test					Result - Remark			Verdict
4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									N/A
Is it possible to install the battery in a reverse polarity position?									N/A
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									Verdict
- Chemical leaks									N/A
- Explosion of the battery									N/A
- Emission of flame or expulsion of molten metal									N/A
- Electric strength tests of equipment after completion of tests									N/A
Supplementary information:									

IEC/EN 60950-1							
Clause	Requirement + Test			Result - Remark		Verdict	
4.5	TABLE: Thermal requirements					P	
	Supply voltage (V)	90 V a.c. / 63 Hz		264 V a.c. / 47 Hz		—	
	Ambient T _{min} (°C)	49,5		44,8		—	
	Ambient T _{max} (°C)	50,7		49,5		—	
Maximum measured temperature T of part/at::		T (°C)	T (°C) at T _{ma}	T (°C)	T (°C) at T _{ma}	Allowed T _{max} (°C)	
AC Inlet		59,1	58,4	54,0	54,5	70	
L1 coil		108,0	107,3	76,7	77,2	130	
ZP1 body		80,1	79,4	70,4	70,9	100	
C1 body		94,7	94,0	77,0	77,5	105	
PCB near BD1		92,6	91,9	79,4	79,9	130	
T1 coil		83,2	82,5	80,6	81,1	110	
T1 core		86,9	86,2	84,1	84,6	110	
PCB near T1		91,3	90,6	91,4	91,9	130	
C9 body		79,9	79,2	78,5	79,0	105	
PL1 body		68,6	67,9	66,7	67,2	100	
PCB near D3		77,9	77,2	75,9	76,4	130	
C12 body		60,3	59,6	59,2	59,7	105	
PCB near C13		61,7	61,0	60,4	60,9	130	
Enclosure inside		59,7	59,0	57,7	58,2	-	
Enclosure outside		55,3	54,6	53,5	54,0	95	
Supplementary information:							
Model: MIT-07XX-1818CC							
Maximum temperature T at T _{ma} (50 °C) is calculated. (T at T _{ma} = T – t _{amb2} + T _{ma})							
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:							

IEC/EN 60950-1								
Clause	Requirement + Test			Result - Remark		Verdict		
4.5	TABLE: Thermal requirements					P		
	Supply voltage (V)	90 V a.c. / 63 Hz		264 V a.c. / 47 Hz		—		
	Ambient T _{min} (°C)	47,4		50,3		—		
	Ambient T _{max} (°C)	49,7		49,5		—		
Maximum measured temperature T of part/at::		T (°C)	T (°C) at T _{ma}	T (°C)	T (°C) at T _{ma}	Allowed T _{max} (°C)		
AC Inlet		59,2	59,5	54,5	55,0	70		
L1 coil		93,1	93,4	80,8	81,3	130		
ZP1 body		86,0	86,3	74,8	75,3	100		
C1 body		92,3	92,6	77,3	77,8	105		
PCB near BD1		103,0	103,3	87,5	88,0	130		
T1 coil		89,4	89,7	87,9	88,4	110		
T1 core		93,6	93,9	90,9	91,4	110		
PCB near T1		84,1	84,4	80,8	81,3	130		
C9 body		87,4	87,7	85,1	85,6	105		
PL1 body		70,0	70,3	66,2	66,7	100		
PCB near D3		79,9	80,2	82,9	83,4	130		
C12 body		63,3	63,6	65,1	65,6	105		
PCB near C13		63,5	63,8	63,8	64,3	130		
Enclosure inside		65,1	65,4	64,7	65,2	-		
Enclosure outside		57,3	57,6	56,9	57,4	95		
Supplementary information:								
Model: MIT-07XX-2024CC								
Maximum temperature T at T _{ma} (50 °C) is calculated. (T at T _{ma} = T – t _{amb2} + T _{ma})								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								

IEC/EN 60950-1								
Clause	Requirement + Test			Result - Remark		Verdict		
4.5	TABLE: Thermal requirements					P		
	Supply voltage (V)	90 V a.c. / 63 Hz		264 V a.c. / 47 Hz		—		
	Ambient T _{min} (°C)	25,0		25,2		—		
	Ambient T _{max} (°C)	24,3		25,1		—		
Maximum measured temperature T of part/at::		T (°C)	T (°C) at T _{ma}	T (°C)	T (°C) at T _{ma}	Allowed T _{max} (°C)		
AC Inlet		35,4	61,1	33,1	58,0	70		
L1 coil		85,7	111,4	66,2	91,1	130		
ZP1 body		59,2	84,9	57,7	82,6	100		
C1 body		71,0	96,7	67,0	91,9	105		
PCB near BD1		76,2	101,9	75,5	100,4	130		
T1 coil		66,0	91,7	72,5	97,4	110		
T1 core		66,5	92,2	72,7	97,6	110		
PCB near T1		64,0	89,7	73,2	98,1	130		
C9 body		68,1	93,8	62,6	87,5	105		
PL1 body		54,2	79,9	57,7	82,6	100		
PCB near D3		55,0	80,7	59,2	84,1	130		
C12 body		46,4	72,1	50,3	75,2	105		
PCB near C13		45,4	71,1	48,7	73,6	130		
Enclosure inside		47,3	73,0	50,3	75,2	-		
Enclosure outside		38,6	64,3	40,7	65,6	95		
Supplementary information:								
Model: MIT-07XX-2448CC								
Maximum temperature T at T _{ma} (50 °C) is calculated. (T at T _{ma} = T – t _{amb2} + T _{ma})								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.5.5	TABLE: Ball pressure test of thermoplastic parts		P
	Allowed impression diameter (mm) : ≤ 2 mm		—
Part		Test temperature (°C)	Impression diameter (mm)
L1 bobbin		126,4	1,1
T1 bobbin		125	0,8
Supplementary information:			

4.7	TABLE: Resistance to fire					P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Supplementary information: (see appended table 1.5.1)						

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
-		-	-	-
Basic/supplementary:				
Unit: Primary to Earth		DC	2506	No
Reinforced:				
Unit: Primary to Secondary		DC	4242	No
Unit: Primary to Plastic Enclosure with foil		DC	4242	No
T1 Primary to secondary of 13-01MIT07-18V5		AC	3000	No
T1 Secondary to core of 13-01MIT07-18V5		AC	3000	No
T1 Primary to secondary of 13-01MIT07-24V5		AC	3000	No
T1 Secondary to core of 13-01MIT07-24V5		AC	3000	No
T1 Primary to secondary of 13-01MIT07-48V		AC	3000	No
T1 Secondary to core of 13-01MIT07-48V		AC	3000	No
Two layers of insulation tape used in T1		AC	3000	No
Supplementary information:				

IEC/EN 60950-1						
Clause	Requirement + Test				Result - Remark	
5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)				22-27 °C	—
	Power source for EUT: Manufacturer, model/type, output rating				-	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
BD1 (1-4)	S	264 V a.c.	< 1 s	F1	0	Fuse(F1)opened; CD(BD1); NT; NB; NC
C4	S	264 V a.c.	< 1 s	F1	0	Fuse(F1)opened; CD(BD1); NT; NB; NC
Q1 (G-D)	S	264 V a.c.	< 1 s	F1	0	Fuse(F1)opened; CD(Q1); NT; NB; NC
Q1 (D-S)	S	264 V a.c.	< 1 s	F1	0	Fuse(F1)opened; CD(Q1); NT; NB; NC
Q1 (G-S)	S	264 V a.c.	10 min	F1	0,21 → 0,04	Unit shutdown; NT; NB; NC
PL1 (1-2)	S	264 V a.c.	10 min	F1	0,21 → 0,07	Unit shutdown; NT; NB; NC
PL1 (3-4)	S	264 V a.c.	10 min	F1	0,21 → 0,06	Unit shutdown; NT; NB; NC
T1 (5-6)	S	264 V a.c.	10 min	F1	0,21 → 0,09	Unit shutdown; NT; NB; NC
18 V Output	O/L	264 V a.c.	10 h 21 min	F1	0,274 → 0,04	Load 1,5 A stable; Load 1,7 A Unit shutdown; Max. temp.T1 Coil / Core: 97,5 °C / 103,7 °C; Ambient: 24,1 °C; NT; NB; NC
24 V Output	O/L	264 V a.c.	8 h 2 min	F1	0,302 → 0,09	Load 1,2 A stable; Load 1,5 A Unit shutdown; Max. temp.T1 Coil / Core: 107,2 °C / 89,1 °C; Ambient: 25,6 °C; NT; NB; NC
48 V Output	O/L	264 V a.c.	23 h 36 min	F1	0,308 → 0,06	Load 0,65 A stable; Load 0,8 A Unit shutdown; Max. temp. T1 Coil / Core: 94,2 °C / 93,7 °C; Ambient: 24,5 °C; NT; NB; NC
18 V Transformer	O/L	264 V a.c.	24 h 31 min	F1	0,28 → 0,06	Load 1,5 A stable; Load 1,7 A Unit shutdown; Max. temp.T1 Coil / Core: 105 °C / 95,5 °C; Ambient: 25 °C; NT; NB; NC

IEC/EN 60950-1						
Clause	Requirement + Test				Result - Remark	
24 V Transformer	O/L	264 V a.c.	20 h 44 min	F1	0,343 → 0,07	Load 1,5 A stable; Load 1,7 A Unit shutdown; Max. temp. T1 Coil / Core: 110,7 °C / 112,3 °C; Ambient: 25,3 °C; NT; NB; NC
48 V Transformer	O/L	264 V a.c.	23 h 42 min	F1	0,353 → 0,07	Load 0,8 A stable; Load 0,9 A Unit shutdown; Max. temp. T1 Coil / Core: 101,9 °C / 98,1 °C; Ambient: 24.9 °C; NT; NB; NC
18 V Output	S	264 V a.c.	10 min	F1	0,206 → 0,05	Unit shutdown; NT; NB; NC
24 V Output	S	264 V a.c.	10 min	F1	0,213 → 0,08	Unit shutdown; NT; NB; NC
48 V Output	S	264 V a.c.	10 min	F1	0,198 → 0,06	Unit shutdown; NT; NB; NC
Supplementary information: S: Short-circuited; O: Open-circuited; O/L: Overloaded IP - Internal protection operated (list component) CT - Constant temperatures were obtained CD - Components damaged (list damaged components) NB - No indication of dielectric breakdown NC - Cheesecloth remained intact NT - Tissue paper remained intact The following electric strength test were conducted after above tests. Primary - Secondary: 4242 V d.c. Primary - Protective earth: 2506 V d.c.						

List of test equipment used:

(Note: This is an example of the required attachment. Other forms with a different layout but containing similar information are also acceptable.)

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
Supplementary information: No listing of test equipment used necessary for chosen CBTL test procedure.				

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to.....:	EN 60950-1:2006 + A11:2009
Attachment Form No.....:	EU_GD_IEC60950_1A
Attachment Originator.....:	SGS Fimko Ltd
Master Attachment.....:	Date (2009-09)
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EN 60950-1:2006/A11:2009 – CENELEC COMMON MODIFICATIONS

	IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications (EN))	
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Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations		P
General	Delete all the "country" notes in the reference document according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6. 2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		P

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		P
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss		N/A
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;		P

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict						
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.								
2.7.2	This subclause has been declared 'void'.		P						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A						
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 (0,75) ^{b)}</td><td>1,0 </td></tr><tr><td>Over 10 up to and including 16 (1,0) ^{c)}</td><td>1,5 </td></tr></table> In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10 (0,75) ^{b)}	1,0	Over 10 up to and including 16 (1,0) ^{c)}	1,5		N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10 (0,75) ^{b)}	1,0								
Over 10 up to and including 16 (1,0) ^{c)}	1,5								
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: <table><tr><td>Over 10 up to and including 16 </td><td>1,5 to 2,5 </td><td>1,5 to 4 </td></tr></table> Delete the fifth line: conductor sizes for 13 to 16 A	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4		N/A			
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4							
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A						
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A						

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—
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ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland, Norway and Sweden , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
	In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag" In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)." NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet." Translation to Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."		

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In Switzerland , supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
	SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 1		N/A
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N/A
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In the United Kingdom , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.		N/A

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN). A-DEVIATIONS (informative)		N/A
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	Denmark (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: “For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.”		N/A
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
1.7.5	Denmark (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A

**Attachment 1 - European group differences and national differences
(EN 60950-1:2006+A11:2009)**

Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

Attachment 2: photograph

Photograph 1 (External View)



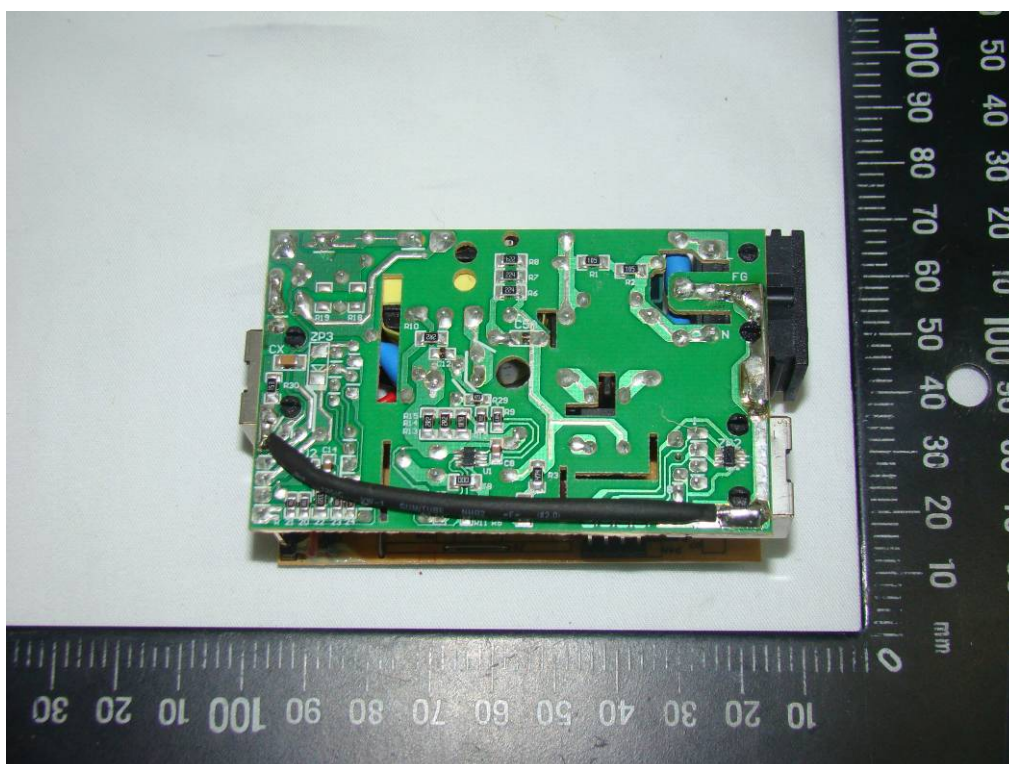
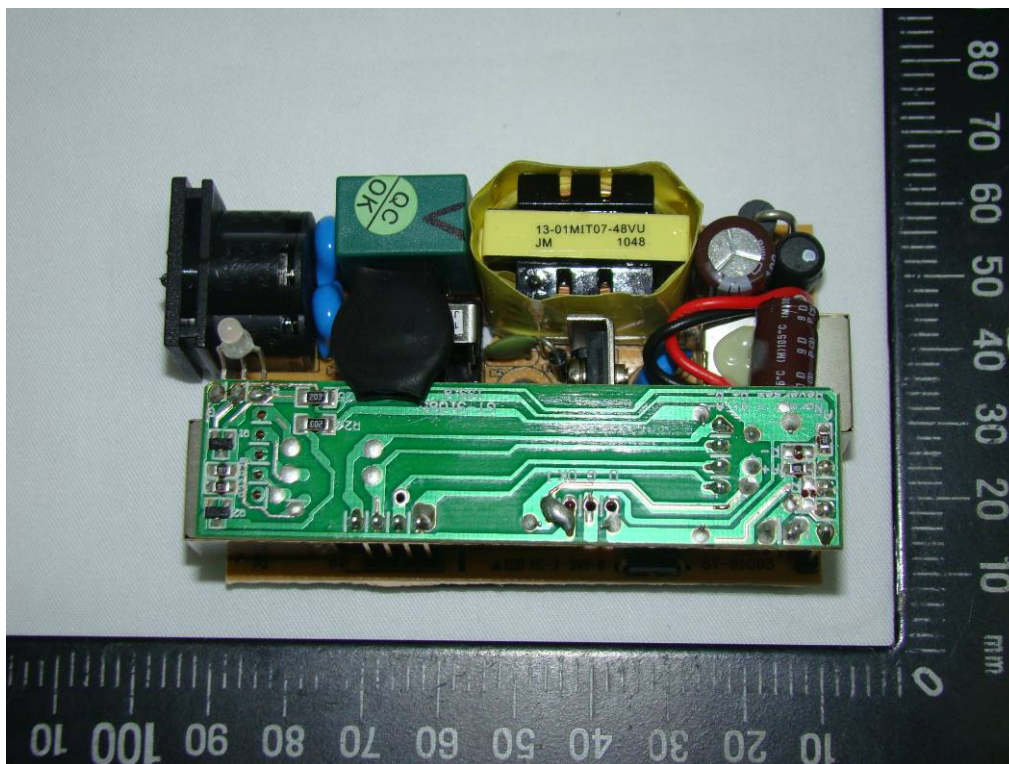
Attachment 2: photograph

Photograph 2 (External View)



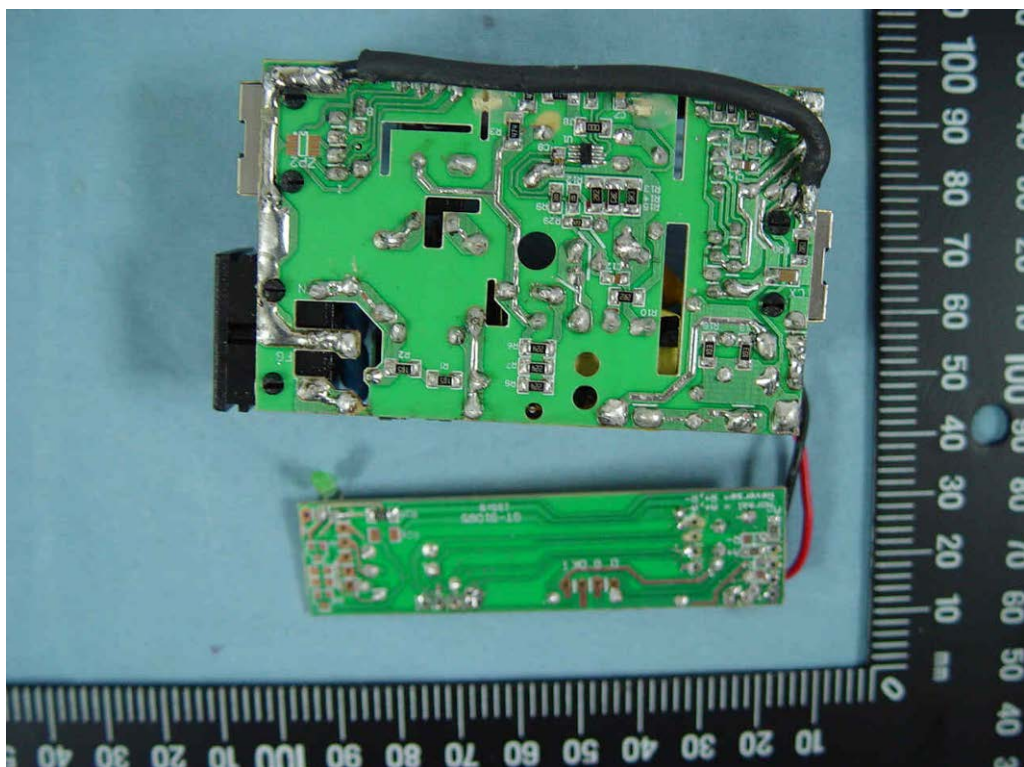
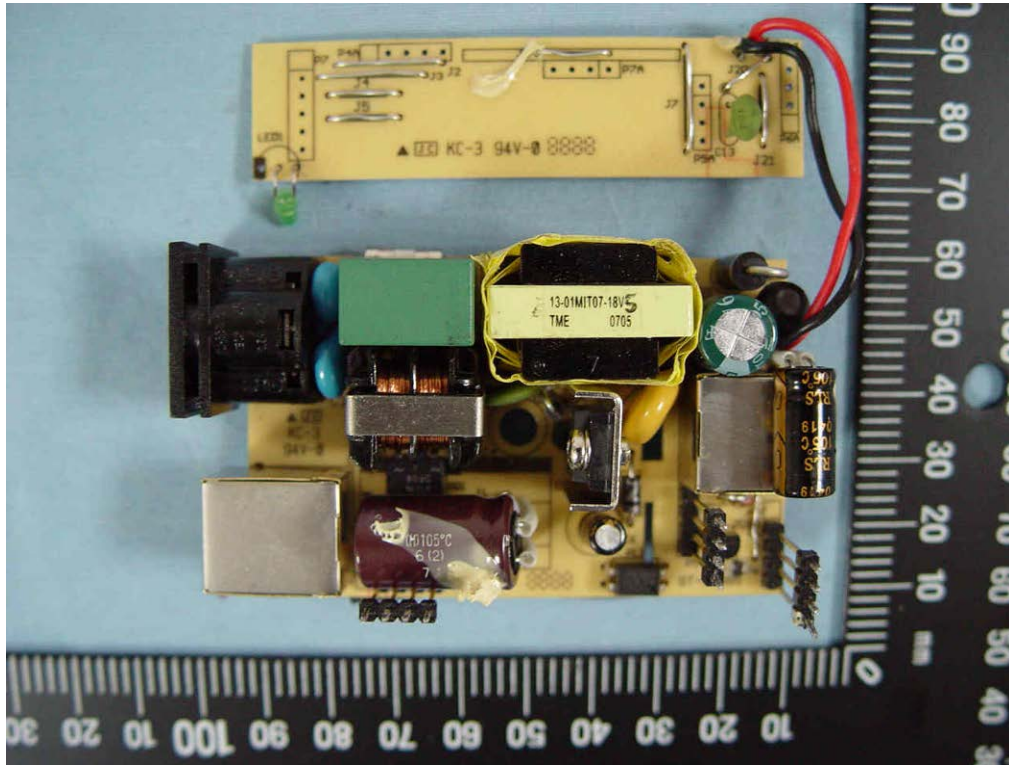
Attachment 2: photograph

Photograph 3 (Internal View)



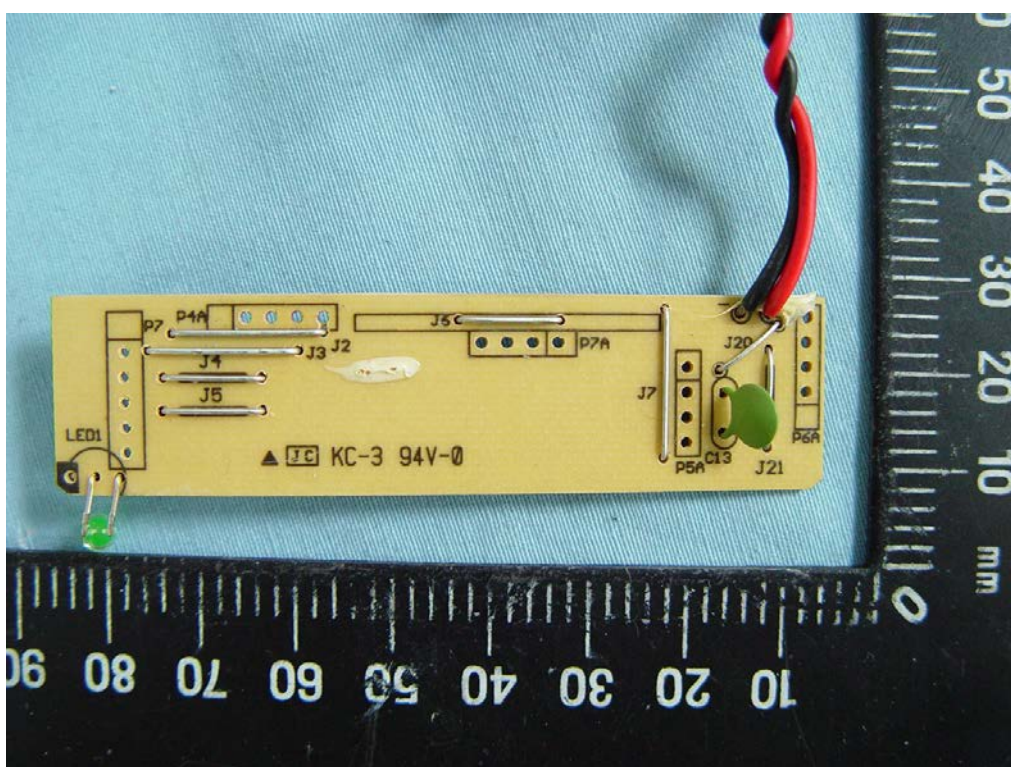
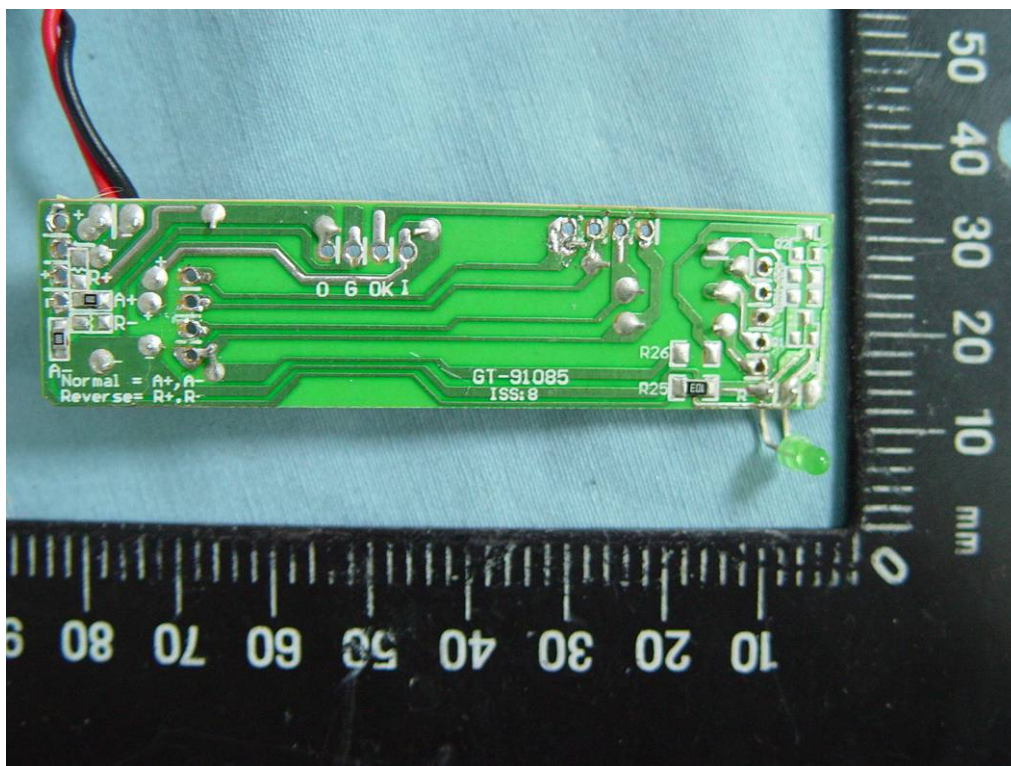
Attachment 2: photograph

Photograph 4 (Internal View)



Attachment 2: photograph

Photograph 5 (Internal View)



Attachment 3: Document

Circuit diagram 1 (MIT-07XX-1818CC)

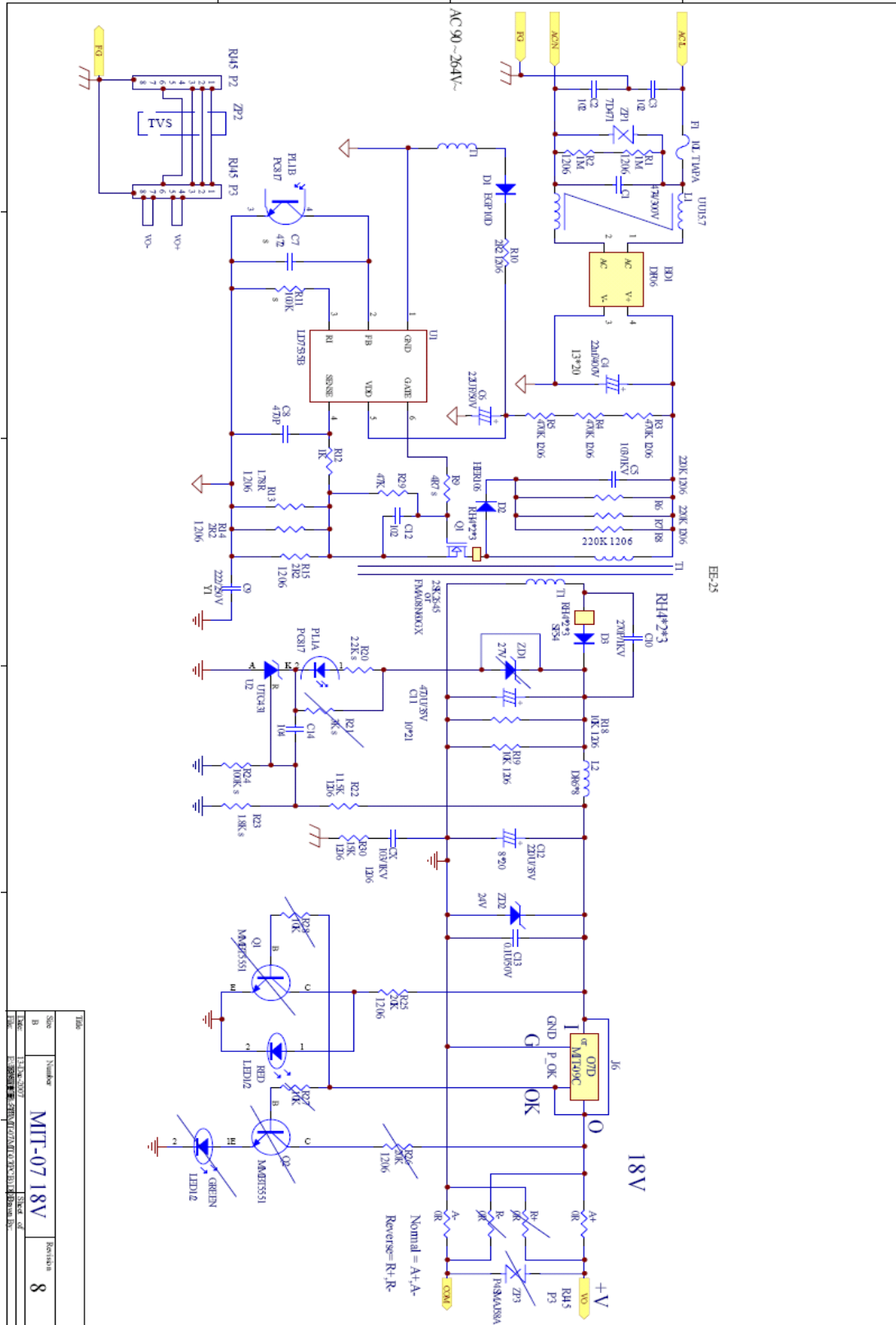
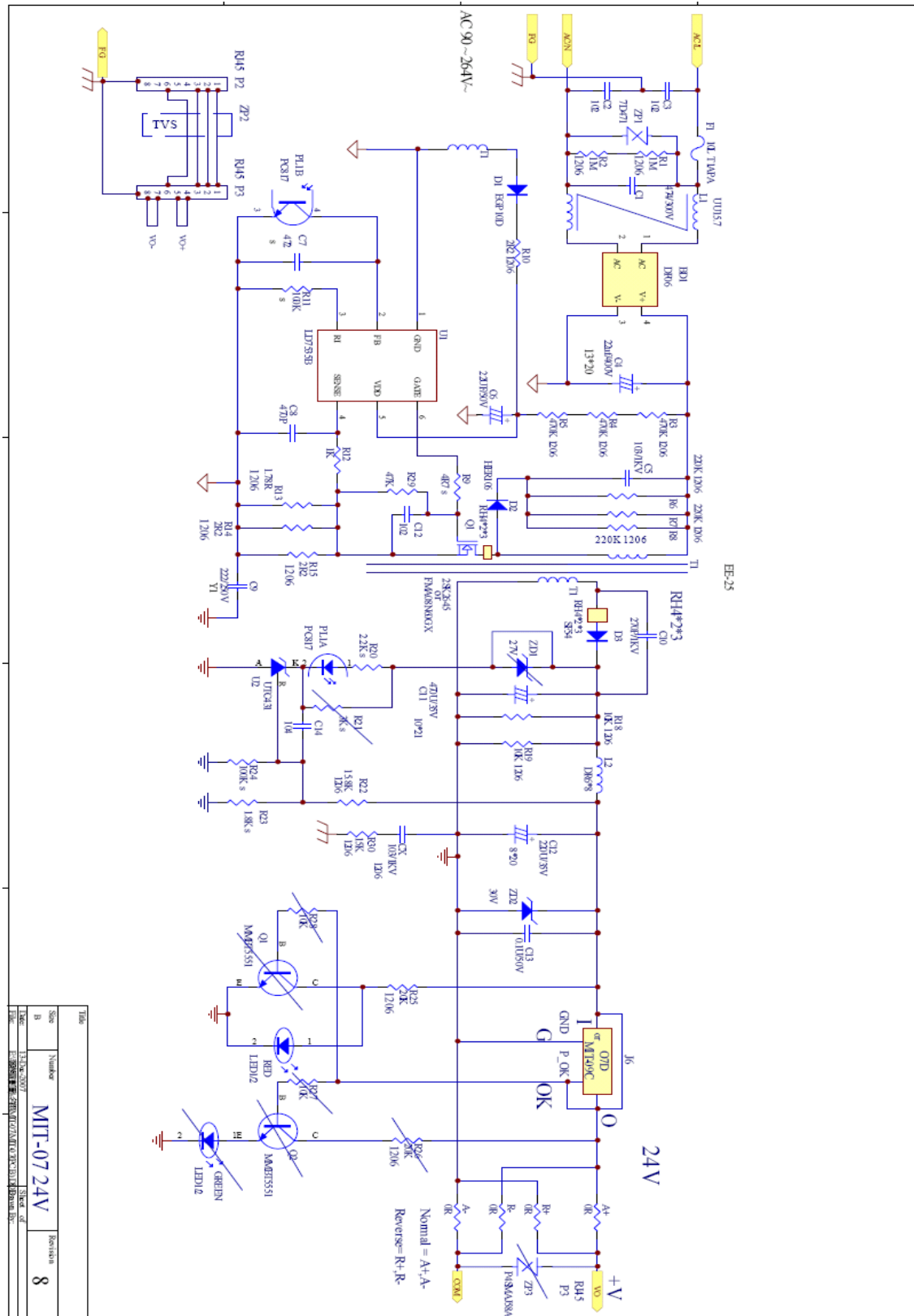


Table	Number	Revision
MIT-07 18V	8	

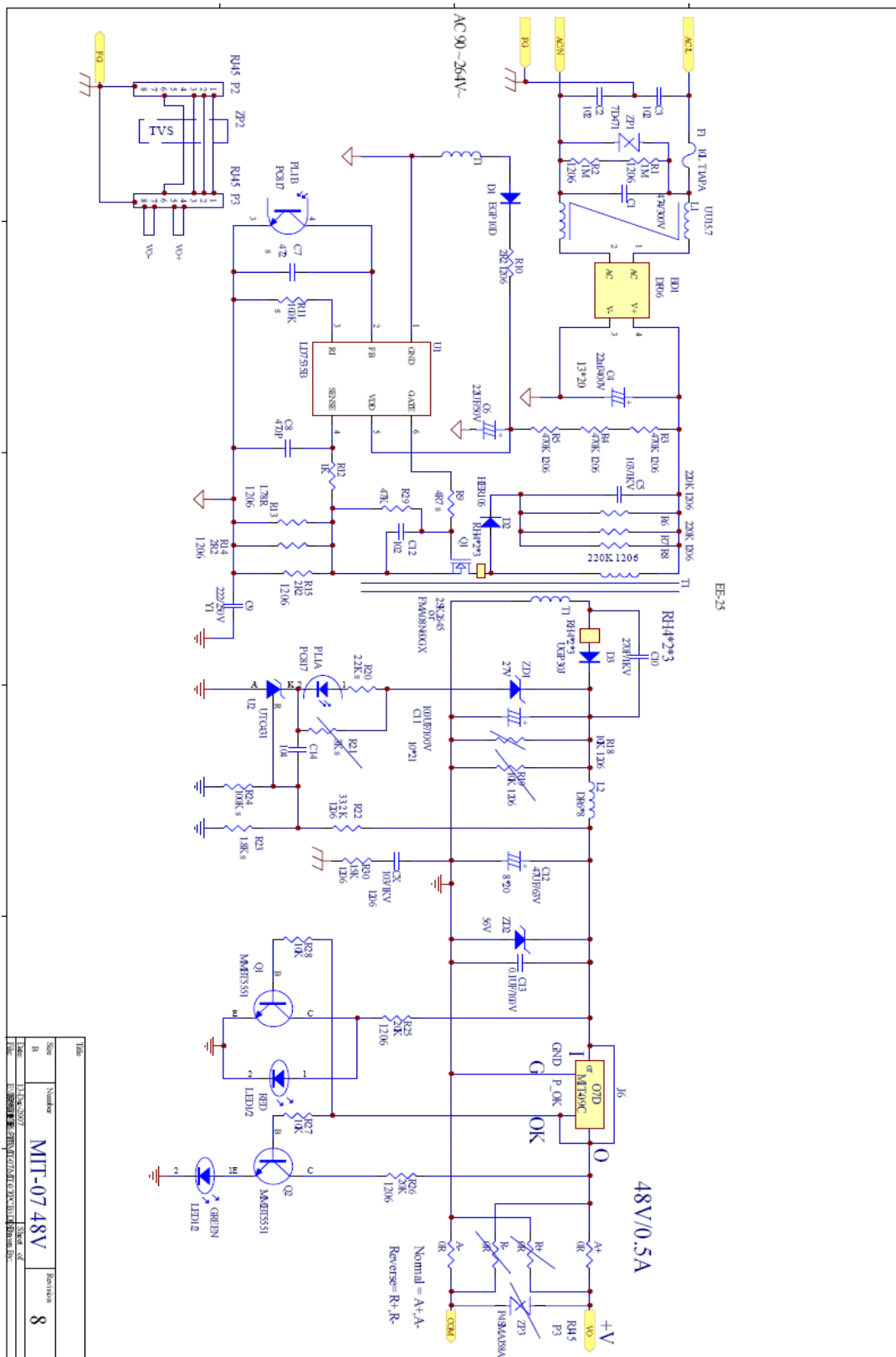
Attachment 3: Document

Circuit diagram 2 (MIT-07XX-2024CC)



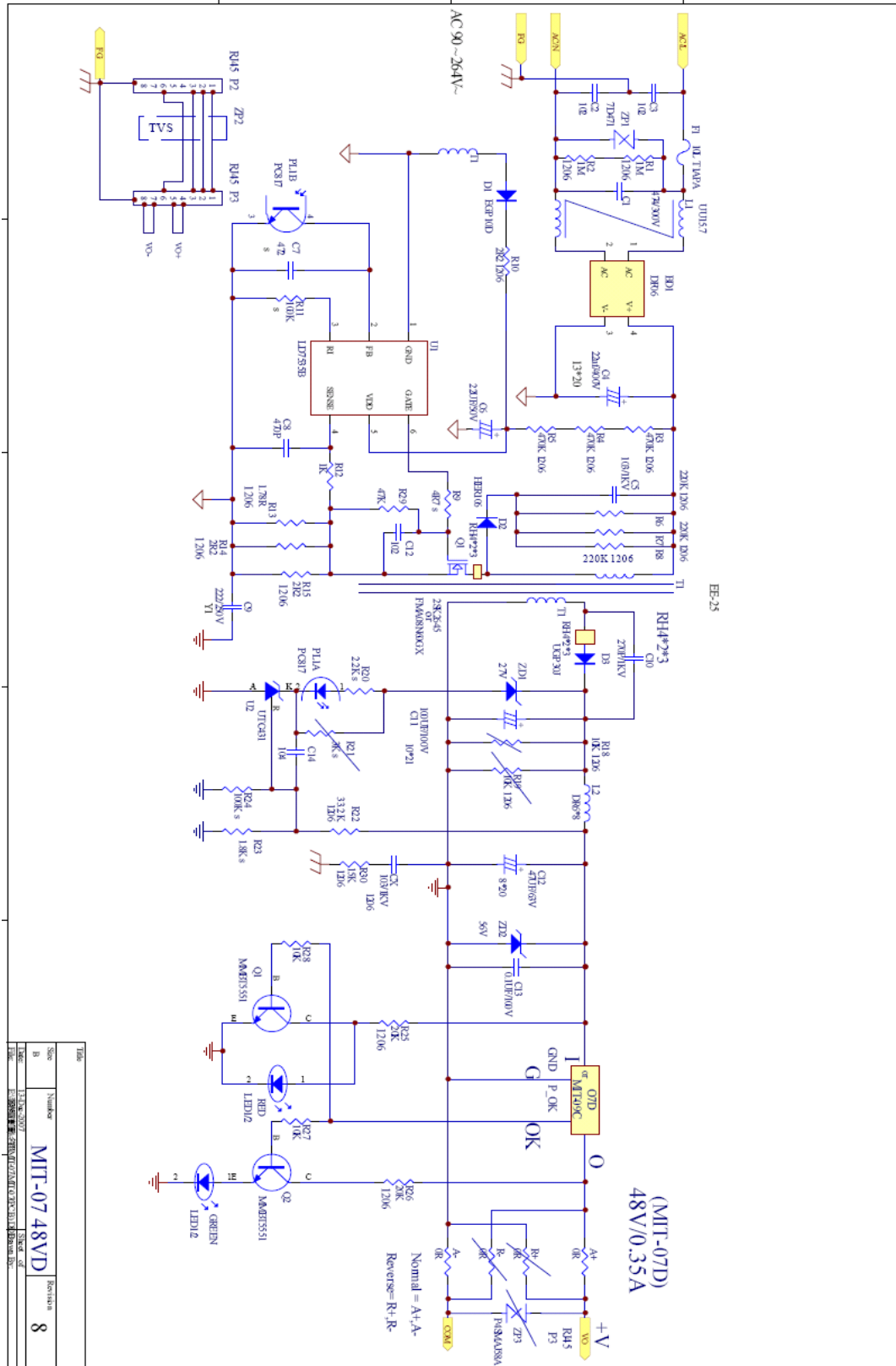
Attachment 3: Document

Circuit diagram 3 (MIT-07XX-2448CC)



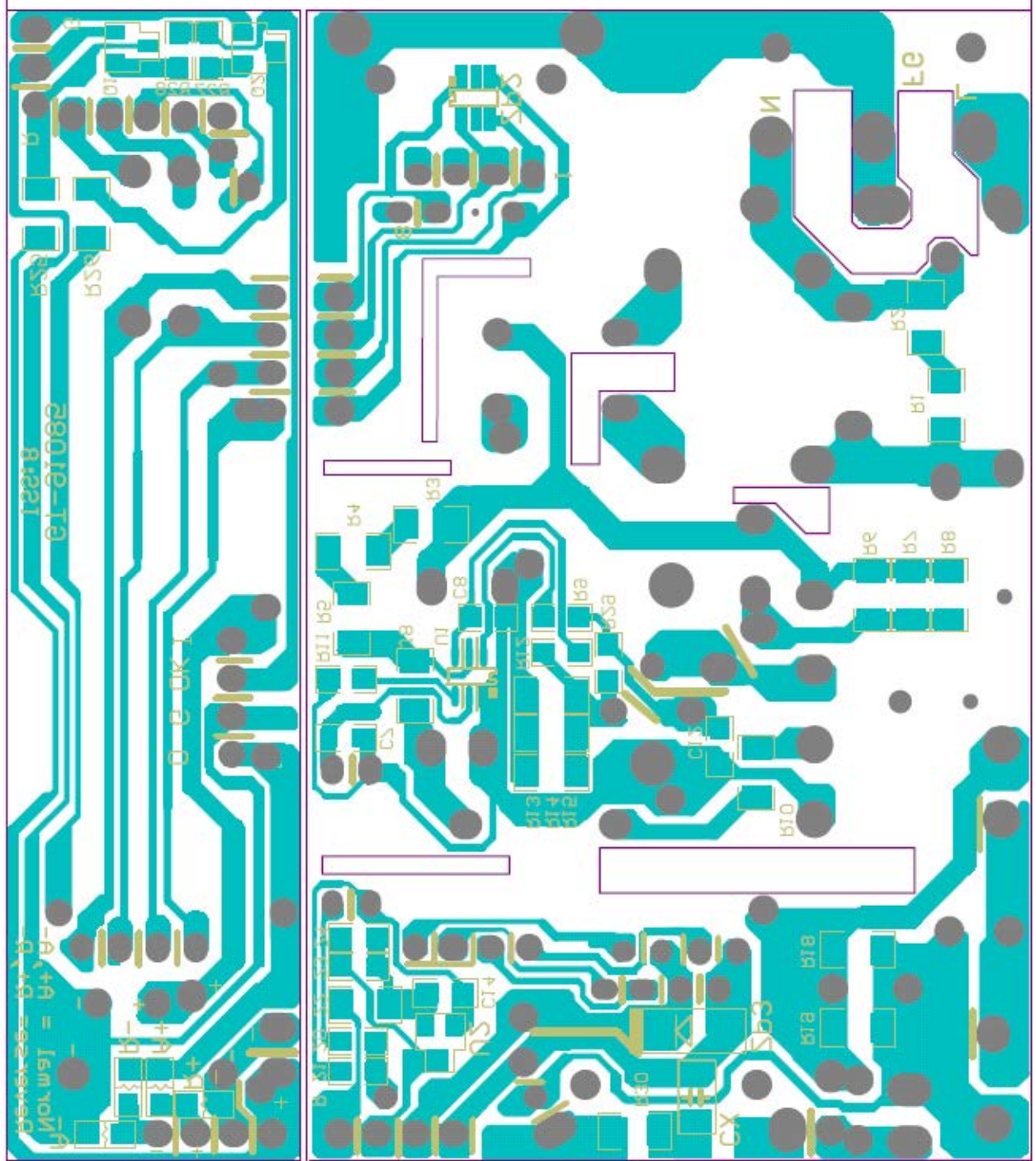
Attachment 3: Document

Circuit diagram 4 (MIT-07XX-1748CC)



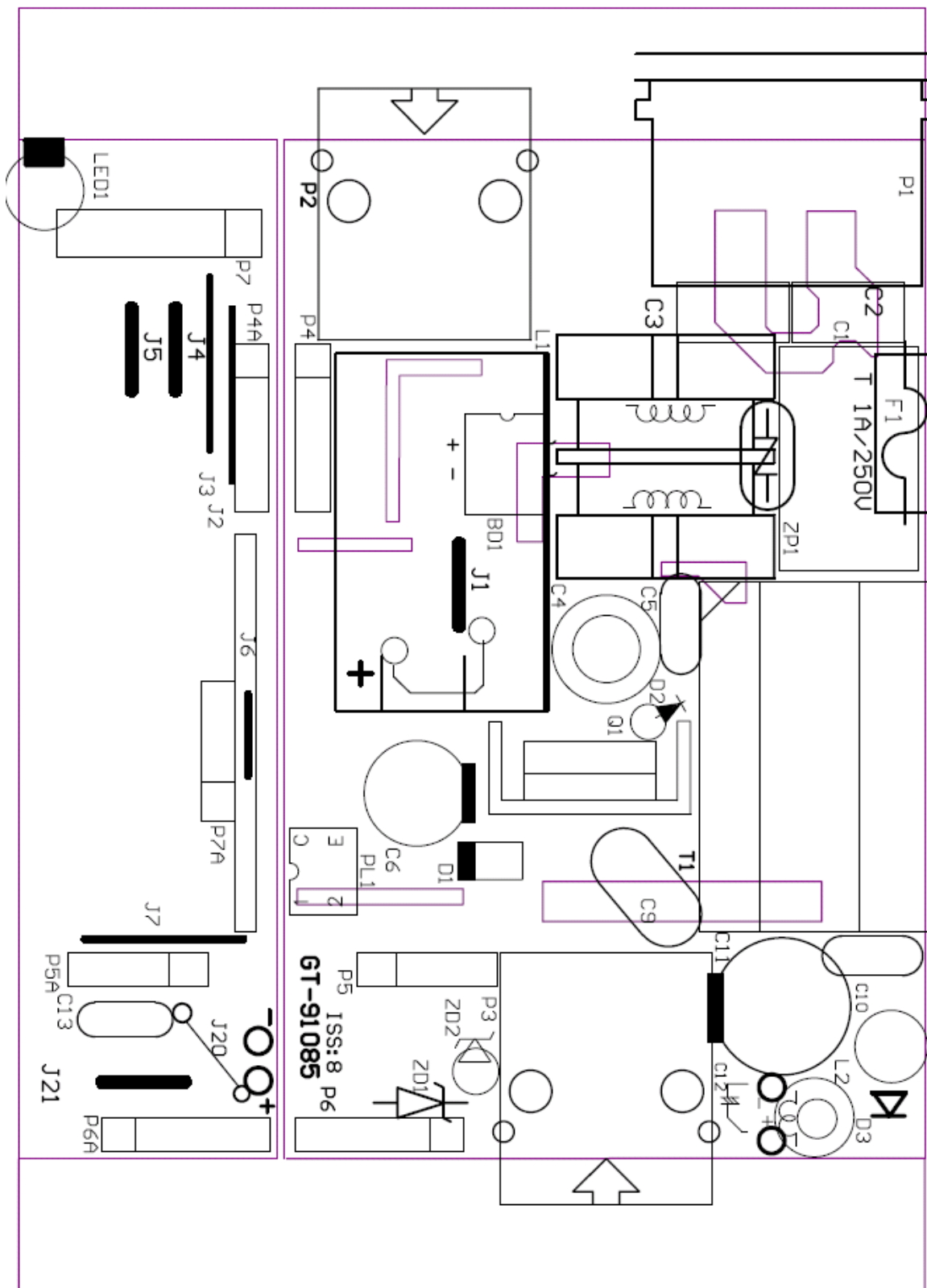
Attachment 3: Document

Layout diagram 1



Attachment 3: Document

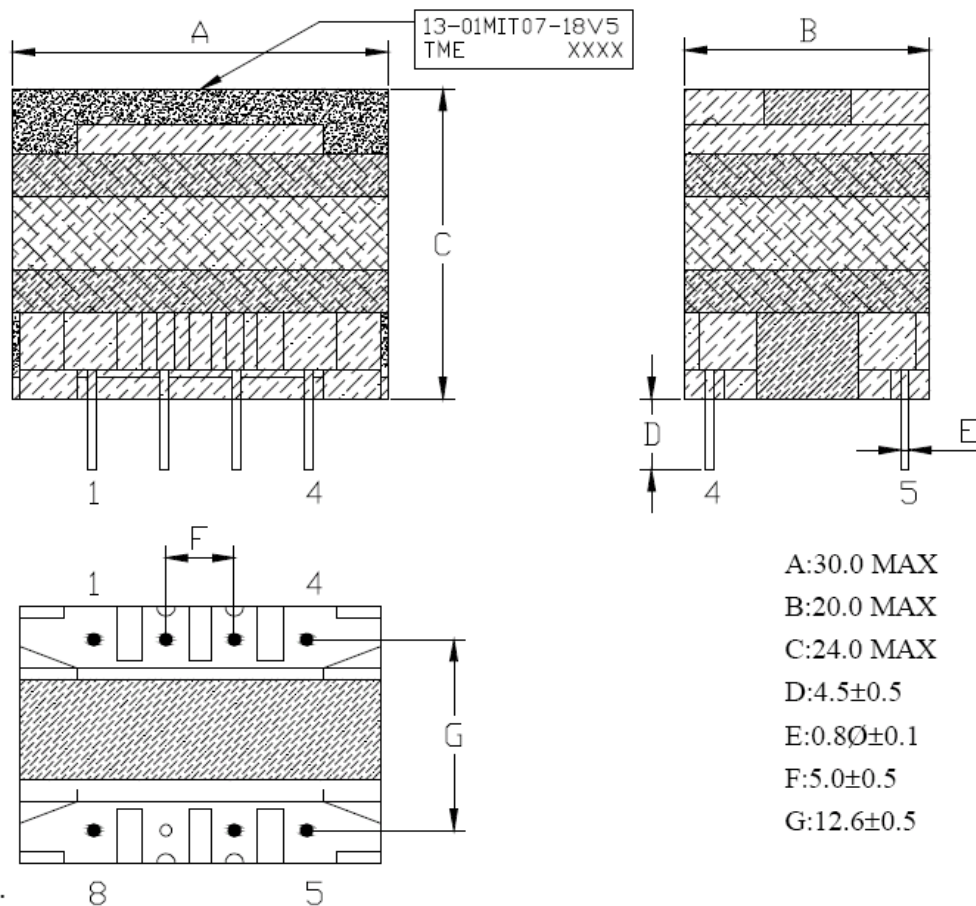
Layout diagram 2



Attachment 3: Document

Specification of transformer (T1) (13-01MIT07-18V5) 1

1.CONFIGURATION DIMENSIONS (UNIT:mm)



*Note:

1. BOBBIN PIN 7 CUT OFF ; PIN 8 焊錫後剪短。
2. 鐵芯須研磨, 研磨之鐵芯放 BOBBIN 底部, 完全密合的以 6.0m/mW 之黃色膠帶 2TS 固定。
3. 組裝後用線包膠帶圍著成品線包包 1TS, 再以 2MIL*8m/mW 的銅箔(須背膠)包 1TS, 引線為 0.4Ø 接於 PIN4, 銅箔結合處不可焊接, 以 8.0m/mW 膠帶粘住, 然後用 11m/mW 膠帶包 1TS。
4. 成品週邊用 21.5m/mW 膠帶包 3TS。
5. 標籤字腳朝 PIN1-4(如圖示)。

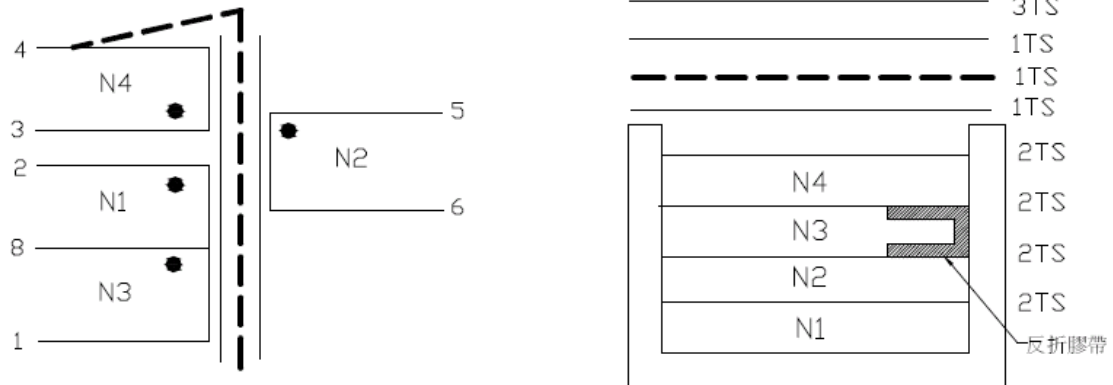
Attachment 3: Document

Specification of transformer (T1) (13-01MIT07-18V5) 2

2.WINDING ORDER:

WINDING	START	WIRE	FINISH	TURNS	TAPE	TUBE	REMARK
N1	2	0.25Ø*2P	8	34.5TS	2TS	/	密繞
N2	5	0.3Ø(TEX-E)*2P	6	20TS	2TS	/	密繞
N3	8	0.25Ø*2P	1	33.5TS	2TS	/	密繞
N4	3	0.25Ø	4	17TS	2TS	/	疏繞

3.WINDING CONSTRUCTION



4.ELECTRIC CHARACTERISTICS:

a. INDUCTANCE: 1KHz/0.25V

L(1-2):800uH±50uH

b. DC RESISTANCE:

R(1-2):0.85 Ω MAX

c. HI-POT:

PRI TO SEC:A.C 3750V/5mA FOR 1 SECOND

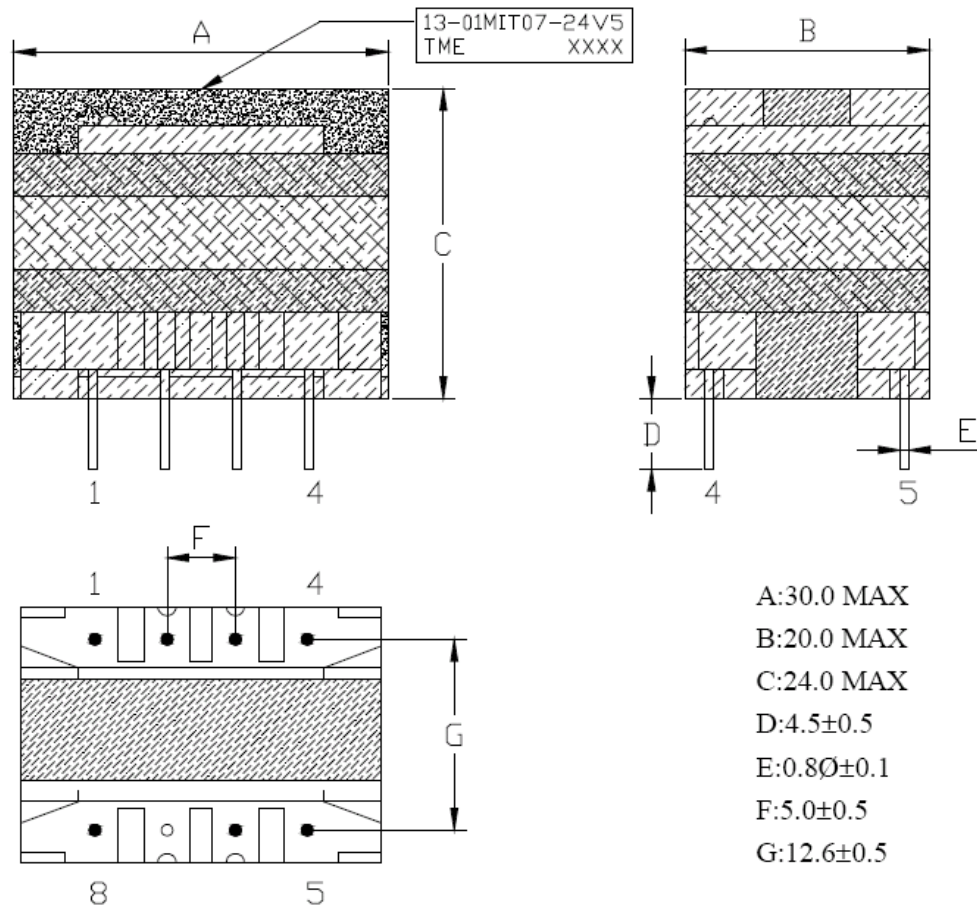
PRI TO CORE:A.C 1200V/5mA FOR 1 SECOND

SEC TO CORE:A.C 1200V/5mA FOR 1 SECOND

Attachment 3: Document

Specification of transformer (T1) (13-01MIT07-24V5) 1

1.CONFIGURATION DIMENSIONS (UNIT:mm)



*Note:

- 1.BOBBIN PIN 7 CUT OFF ; PIN 8 焊錫後剪短。
- 2.鐵芯須研磨,研磨之鐵芯放 BOBBIN 底部,完全密合的以 6.0m/mW 之黃色膠帶 2TS 固定.
- 3.組裝後用線包膠帶圍著成品線包包 1TS,再以 2MIL*8m/mW 的銅箔(須背膠)包 1TS,引線為 0.4Ø 接於 PIN4,銅箔結合處不可焊接,以 8.0m/mW 膠帶粘住,然後用 11m/mW 膠帶包 1TS。
- 4.成品週邊用 21.5m/mW 膠帶包 3TS。
- 5.標籤字腳朝 PIN1-4(如圖示)。

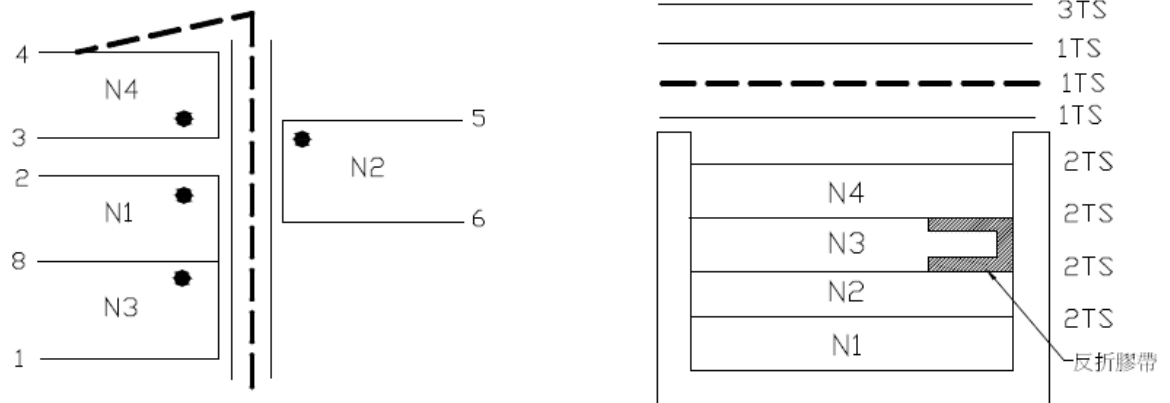
Attachment 3: Document

Specification of transformer (T1) (13-01MIT07-24V5) 2

2.WINDING ORDER:

WINDING	START	WIRE	FINISH	TURNS	TAPE	TUBE	REMARK
N1	2	0.25Ø*2P	8	34.5TS	2TS	/	密繞
N2	5	0.3Ø(TEX-E)*2P	6	28TS	2TS	/	密繞
N3	8	0.25Ø*2P	1	33.5TS	2TS	/	密繞
N4	3	0.25Ø	4	16TS	2TS	/	疏繞

3.WINDING CONSTRUCTION



4.ELECTRIC CHARACTERISTICS:

a. INDUCTANCE: 1KHz/0.25V

L(1-2):500uH±50uH

b. DC RESISTANCE:

R(1-2):0.85Ω MAX

c. HI-POT:

PRI TO SEC:A.C 3750V/5mA FOR 1 SECOND

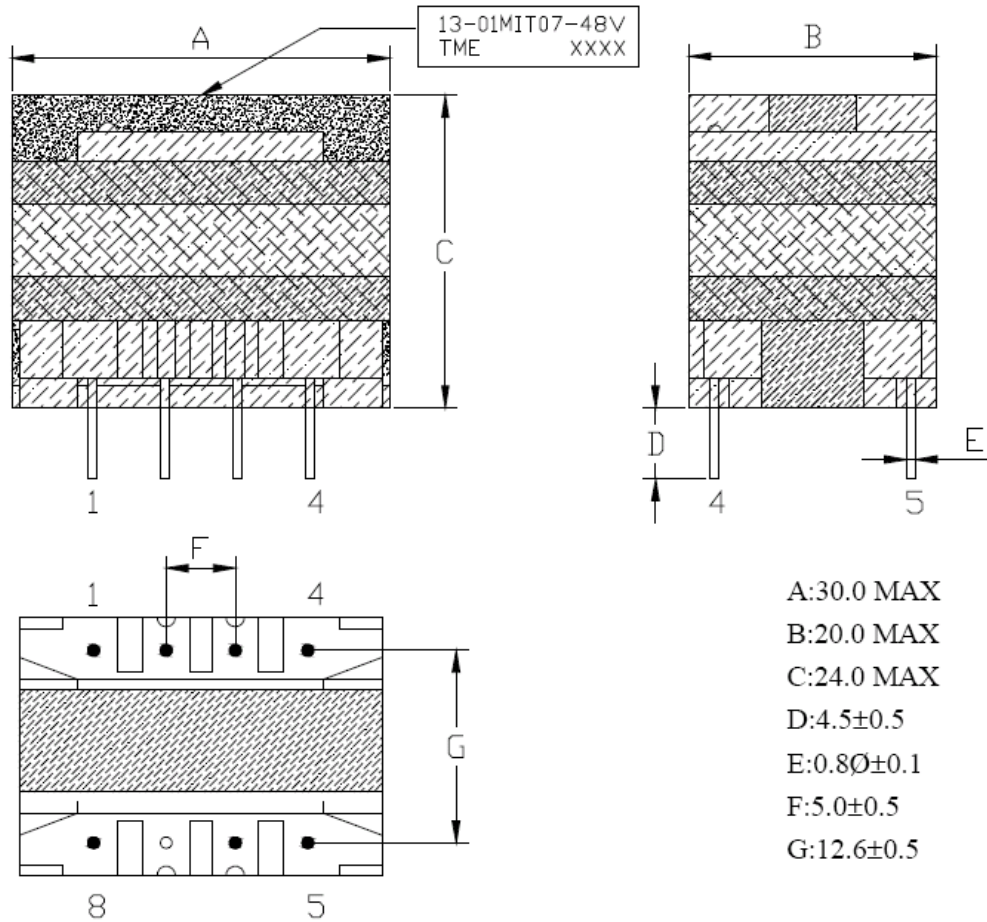
PRI TO CORE:A.C 1200V/5mA FOR 1 SECOND

SEC TO CORE:A.C 1200V/5mA FOR 1 SECOND

Attachment 3: Document

Specification of transformer (T1) (13-01MIT07-48V5) 1

1.CONFIGURATION DIMENSIONS (UNIT:mm)



*Note:

- 1.BOBBIN PIN 7 CUT OFF ; PIN 8 焊錫後剪短。
- 2.鐵芯須研磨,研磨之鐵芯放 BOBBIN 底部,完全密合的以 6.0m/mW 之黃色膠帶 2TS 固定.
- 3.組裝後用線包膠帶圍著成品線包包 1TS,再以 2MIL*8m/mW 的銅箔(須背膠)包 1TS,引線為 0.4Ø 接於 PIN4,銅箔結合處不可焊接,以 8.0m/mW 膠帶粘住,然後用 11m/mW 膠帶包 1TS。
- 4.成品週邊用 21.5m/mW 膠帶包 3TS。
- 5.標籤字腳朝 PIN1-4(如圖示)。

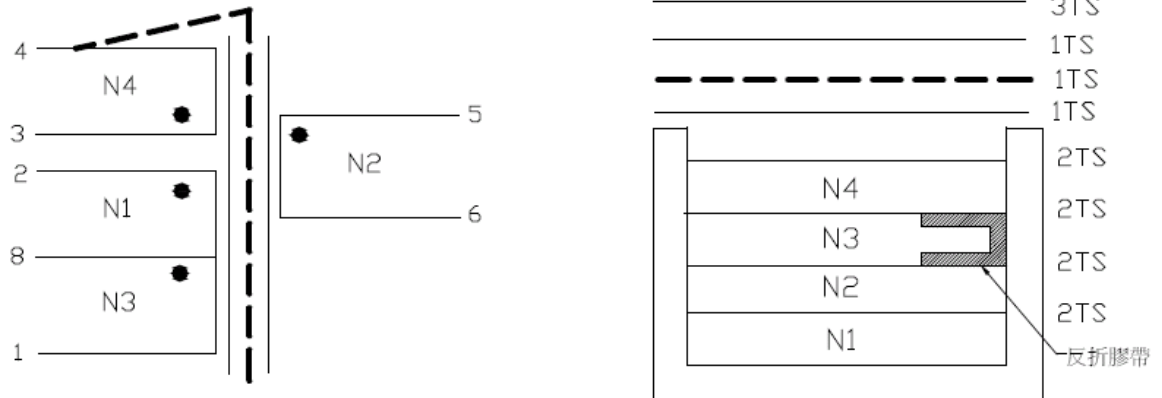
Attachment 3: Document

Specification of transformer (T1) (13-01MIT07-48V5) 2

2.WINDING ORDER:

WINDING	START	WIRE	FINISH	TURNS	TAPE	TUBE	REMARK
N1	2	0.25Ø*2P	8	34.5TS	2TS	/	密繞
N2	5	0.3Ø(TEX-E)*2P	6	40TS	2TS	/	密繞
N3	8	0.25Ø*2P	1	33.5TS	2TS	/	密繞
N4	3	0.25Ø	4	11TS	2TS	/	疏繞

3.WINDING CONSTRUCTION



4.ELECTRIC CHARACTERISTICS:

a. INDUCTANCE: 1KHz/0.25V

L(1-2):500uH±10%

b. DC RESISTANCE:

R(1-2):0.85Ω MAX

c. HI-POT:

PRI TO SEC:A.C 3750V/5mA FOR 1 SECOND

PRI TO CORE:A.C 1200V/5mA FOR 1 SECOND

SEC TO CORE:A.C 1200V/5mA FOR 1 SECOND

Attachment 3: Document

Specification of transformer (T1)
(13-01MIT07-18V5, 13-01MIT07-24V5, 13-01MIT07-48V5) 1

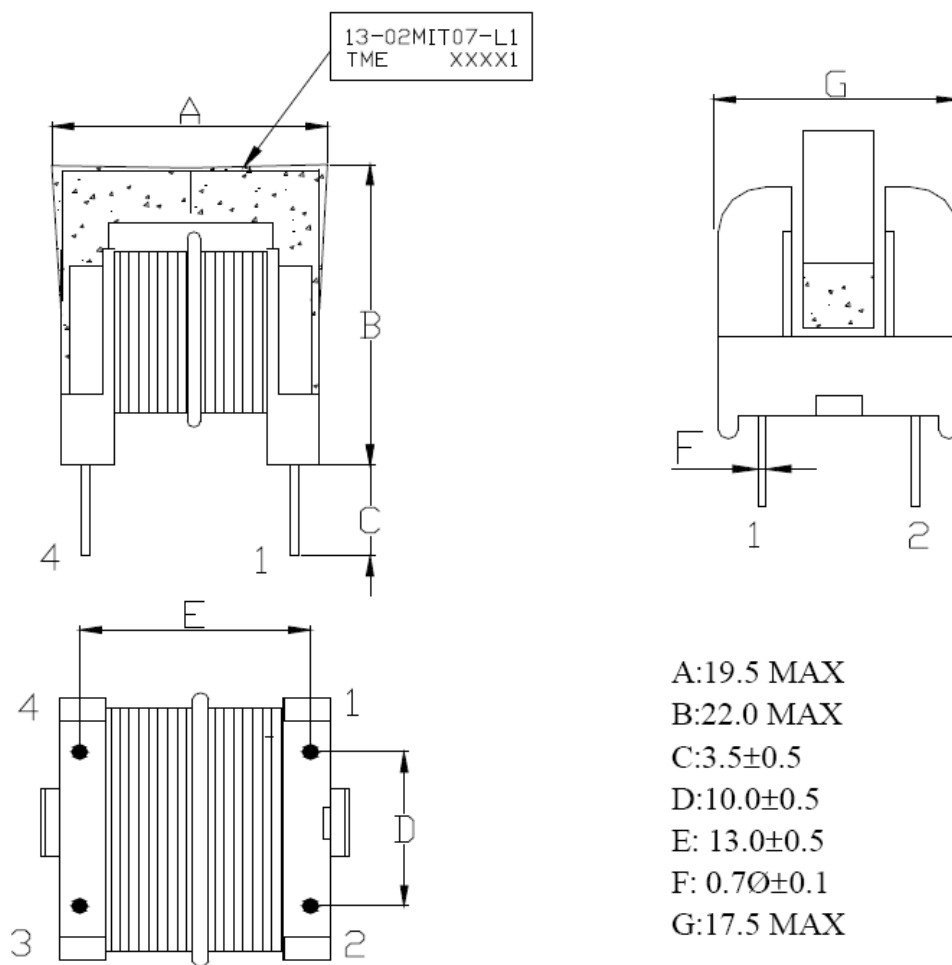
5.MATERIAL LIST:

TEM	DESCRIPTION	MATERIAL	FLAME RETARDANT CLASS (TEMP.CLASS)	UL NO.	MANUFACTURER	
1	CU WIRE	UEW-2 TEX-E	130°C 130°C	E174837 E206440	JUNG SHING FURUKAWA	✓ ✓
2	BOBBIN	PHENOLIC T375J		E59481(S)	CHANG CHUN	✓
3	CORE	EE-25 TP40 EE-25 P4			TAK ACME	✓
4	POLYESTER TAPE	#35660	130°C	E50292	FOUR PILLARS	✓
5	VARNISH	BC-346A		E51047(M)	JOHN C.DOLPH CO	✓
6	FOIL	C1100			HONG LI YUAN	✓

Attachment 3: Document

Specification of choke (L1) 1

1 · CONFIGURATION DIMENSIONS (UNIT : mm)



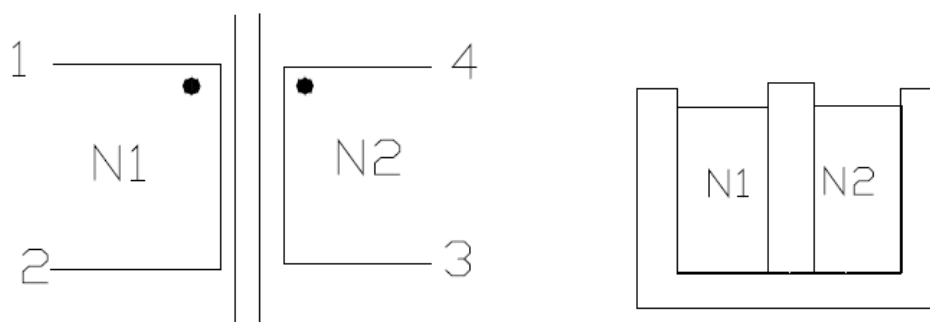
Attachment 3: Document

Specification of choke (L1) 2

2.WINDING ORDER:

WINDING	START	FINISH	WIRE	TURNS	TAPE	TUBE	REMARK
N1	1	2	0.2Ø	155TS(REF)	/	/	CLOSE
N2	4	3	0.2Ø	155TS(REF)	/	/	CLOSE

3.WINDING CONSTRUCTION



4.ELECTRIC CHARACTERISTICS:

a. INDUCTANCE: 10KHz/0.05V

L (1-2): 35.0mH MIN

L (4-3): 35.0mH MIN

b. DC RESISTANCE:

R(1-2): 4.2 Ω MAX

R(4-3): 4.2 Ω MAX

c. HI-POT:

COIL TO COIL :A.C 500V/5mA FOR TWO SECOND

COILS TO CORE :A.C 500V/5mA FOR TWO SECOND