Test Report issued under the responsibility of:

TEST REPORT
IEC 60950-1
Information technology equipment - Safety - Part 1: General requirements

Report Reference No ..... :	E300305-A10-CB-4
Date of issue ..... :	2014-10-28
Total number of pages ..... :	16
CB Testing Laboratory ..... :	UL Korea, Ltd.
Address ..... :	218 Maeyeong-ro Yeongtong-gu, Suwon-si Gyeonggi-do, 443-823, Korea
Applicant's name ..... :	BRIDGEPOWER CORP
Address ..... :	(GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Test specification:	
Standard ..... :	IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1F
Test Report Form originator ..... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2014-02

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.

General disclaimer

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	:	Switching Power Supply
Trade Mark	:	BridgePower
Manufacturer	:	BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Model/Type reference	:	JPOE130A48******, JPOE130B48******, JPOE130C48******,PW180*A48*****, PW180*B48*****, PW180*C48*****, PUTP-130A-***, PUTP-130B-***, PUTP-130C-*** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")
Ratings	:	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A

Testing procedure and testing location:		
[x]	**CB Testing Laboratory**	
	Testing location / address .....:	UL Korea, Ltd. 218 Maeyeong-ro Yeongtong-gu, Suwon-si Gyeonggi-do, 443-823, Korea
[ ]	**Associated CB Test Laboratory**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	Jeremy Lim / Project handler Jeremy Lim
	Approved by (name + signature)....:	Seungtae Kim / Reviewer
[ ]	**Testing Procedure: TMP/CTF Stage 1**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
[ ]	**Testing Procedure: WMT/CTF Stage 2**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Witnessed by (name + signature) ..:	
	Approved by (name + signature)....:	
[ ]	**Testing Procedure: SMT/CTF Stage 3 or 4**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
	Supervised by (name + signature) .:	
[ ]	**Testing Procedure: RMT**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
	Supervised by (name + signature) .:	

List of Attachments

National Differences (0 pages)

Enclosures (3 pages)

Summary of Testing:

No tests were conducted

Summary of Compliance with National Differences:

Countries outside the CB Scheme membership may also accept this report.

List of countries addressed: AT, BE, BG, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IT, JP, KR, NL, NO, PL, PT, RO, SE, SG, SI, SK, UA

The product fulfills the requirements of: N/A

Copy of Marking Plate - Refer to Enclosure titled Marking Plate for copy.

Test item particulars :		
Equipment mobility	:	movable
Connection to the mains	:	pluggable A
Operating condition	:	continuous
Access location	:	restricted access location
Over voltage category (OVC)	:	OVC II
Mains supply tolerance (%) or absolute mains supply values	:	+10%, -10%
Tested for IT power systems	:	Yes(for Norway only)
IT testing, phase-phase voltage (V)	:	230 Vac
Class of equipment	:	Class I (earthed) or Class II (double insulated)
Considered current rating of protective device as part of the building installation (A)	:	0.5
Pollution degree (PD)	:	PD 2
IP protection class	:	IP X0
Altitude of operation (m)	:	Up to 2000m
Altitude of test laboratory (m)	:	N/A
Mass of equipment (kg)	:	0.17
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(s) of receipt of test item	:	N/A
Date(s) of Performance of tests	:	N/A
General remarks:		
"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a point is used as the decimal separator.		
Manufacturer's Declaration per Sub Clause 4.2.5 of IECEE 02:		Yes
The application for obtaining a CB Test Certificate includes more than one factory and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... When differences exist, they shall be identified in the General Product Information section.		
Name and address of Factory(ies):		WENDENG JEIL ELECTRONICS CO LTD DONG SHOU GUANGZHOU LU KAIFA-QU WENDENG-SHI SHANDONG CHINA BRIDGEPOWER CORP

(GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL
GWONSEON-GU
SUWON-SI GYEONGGI 441-813 KOREA

BRIDGEPOWER VINA COMPANY LIMITED
LOT B9 THUY VAN INDUSTRIAL ZONE, VIET TRI CITY, PHU THO PROVINCE, VIETNAM

GENERAL PRODUCT INFORMATION:

Report Summary

The original report was modified on 2017-12-20 to include the following changes/additions:
The original Test Report Ref. No. E300305-A10-CB-4-Reissue, dated 2014 October 28 was additionally modified on 2017 December 11 to include the following changes and/or additions, which both were considered technical modifications and administrative modifications.
No tests were considered necessary due to an engineering consideration.

4788257219(E300305-A10-CB-4, Amendment 1)
1. Addition of the new factory information
- BRIDGEPOWER VINA COMPANY LIMITED LOT B9 THUY VAN INDUSTRIAL ZONE, VIET TRI CITY, PHU THO PROVINCE, VIETNAM
2. Revision of the Critical Component list
- Addition of the alternate Appliance inlets, TU-301-S & TU-301-SP and SO-222 by Tecx-Unions Technology Corp
- Addition of the alternate Vietnam factory for Line filter and Transformer
- Correction of following in the critical component list
1) Enclosure manufacturer name from Samsung SDI to LOTTE ADVANCED MATERIALS CO LTD
2) Fuse manufacturer name from Save fusetech Inc to Cooper bussman Inc, from wickmann to littelfuse wickmann werke and standard number
3) standard number for X-capacitor and Y-capacitor
4) Optical isolator manufacturer name from SHARP CORP ELECTRONIC COMPONENTS GROUP to SHARP CORP ELECTRONIC COMPONENTS AND DEVICES BU, KODENSHI KOREA to AUK CORP
5) Y-capacitor and Bridging capacitor manufacturer name from NETRON TECH to WENDENG NETRONTECH ELECTRONICS CO LTD, DU SAN INDUSTRIAL CO LTD to APEX C&L CO LTD
6) Y-capacitor type, from SE or SF to SB or SE

Product Description

Switching Mode Power Supply(AC/DC adapter), consists of electronic components mounted on PWB, a switching transformer and electronic components mounted on PWB, housed with a plastic enclosure.

Model Differences

The applicant submitted samples of models JPOE130A4800FK01 and JPOE130B4800FK01 for testing.

Model JPOE130B4800FK01 is identical to model JPOE130A4800FK01 except for model designation and output circuitry with the different rated output current.

Model JPOE130C******** is identical to model JPOE130A********, except model designation and secondary circuit not affecting on the safety and construction.
Models PW180********* and PUTP-130*-*** are identical to model JPOE130********* except for model designation.

Nomenclature
JPOE130*(a)**(b)**(c)*(d)*(e)**(f)
(a) means Design revision changes, may by A, B or C as rated output current, A or C - 0.4A or 0.35A, B - 0.32A or 0.35A;
(b) means output voltage, 48;
(c) means standards output cord options, may be 00 to 99;
(d) means standards input cord options, may be F (Class I) or N (Class II);
(e) means custom options, may be K or C;
(f) means custom options, may be 00 to 99 or AA to ZZ.

PW180*(a)*(b)**(c)**(d)*(e)**(f)
(a) means custom options, may be K or C;
(b) means design revision changes, may be A, B or C as rated output current, A or C - 0.4A or 0.35A, B - 0.32A or 0.35A;
(c) means output voltage, 48;
(d) means standards output cord options, may be 00 to 99;
(e) means standards input cord options, may be F (Class I) or N (Class II);
(f) means custom options, may be 00 to 99 or AA to ZZ.

PUTP-130*(a)-**(b)*(c)
(a) means design revision changes, may be A, B or C as rated output current, A or C - 0.4A or 0.35A, B - 0.32A or 0.35A;
(b) means custom options, may be 00 to 99.
(c) means standards input cord options, may be Blank (Class I) or N (Class II);

Additional Information

Max. Normal Load Condition:
JPOE130A4800FK01 - 47.90 Vdc, 0.4 A;
JPOE130B4800FK01 - 47.57 Vdc, 0.32 A or 46.9 Vdc, 0.35 A

Before placing the products in the different countries, the manufacturer has to guarantee that:
1. Operating instructions and warnings are written in an accepted language of the certain country.
2. The equipment is in compliance with the national standards of the certain country.

Amendment 1, 06CA55186
- Alternate rated output current; 0.35A

Correction 1, 06CA55186
- Type error correction

Amendment 2, 07CA04983
- Alternate Inlet, RF-180 by RongFeng Industrial Co. Ltd. for Class II equipment.

Amendment 3, 07CA18853
- Model addition, JPOE130C**(b)**(c)*(d)*(e)**(f), PW180C*(b)**(c)**(d)*(e)**(f), PUTP-130C-**(b)*(c) with secondary circuit revision, JPOE130C**(b)**(c)*(d)*(e)**(f) is identical to JPOE130A**(b)**(c)*(d)*(e)**(f), except model designation and secondary circuit not affecting on the safety and construction.

Reissued, E300305-A10-2, 08CA62248
- Applicant, Manufacturer, Factory name and address change due to movement, see Report cover page for new company name and address.
- Delete Factory, Ault Korea Corp.

- Revision of Nomenclature.
- Manufacturer change of Line filter(L1) and Transformer(T1) to BRIDGEPOWER CORP and Enclosure to Sabic Innovative Plastics in the appended table 1.5.1.
- Addition of National deviation

Correction 1, 09CA03570
- Correction of Nomenclature, (e) for model JPOE130 series and (a) for model PW180 series due to applicant's request.
- Correction of sub. clause 1.5.
- Correction of L1, T1 manufacturer in the appended table 1.5.1.

Correction 2, 09CA14937
- Correction of Main Transformer (T1) type due to typo.

Reissue, 10CA46694
1. Upgrade report from IEC 60950-1 1st edition to IEC 60950-1 2nd edition
2. No tests conducted under this investigation due to reissue of CB Test Report Ref.No. E300305-A10-CB-2 issued date 2008-12-12, E300305-A10-CB-2,Correction 1 issued 2009-01-15, E300305-A10-CB-2, Correction 2 issued 2009-03-26, CB Test Certificate Ref.No. DK-14726 issued data 2008-12-16 , DK-14727 issued data 2008-12-16 , DK-14726-M1 issued 2009-03-04 , DK-14727-M1 issued 2009-03-04.
3. Add manufacturer declaration.
4.For China, Japan and Australia differences, it is not listed in the CB bulletin 112A dated Dec. 2006 for IEC 60950-1, therefore the deviation of IEC 60950 3rd edition is used for China and Japan and the deviation of IEC 60950-1 1st edition used for Australia, see Enclosure, Miscellaneous.
5. Add trademark "BridgePower"

Correction. SR9742118(E300305-A10-CB-3, Correction1)
- Add humidity test time (48hours) in clause 2.9.2 due to missing.
- Add "Also complied with humidity test" in table 5.2 supplementary information.

4786594328(E300305-A10-CB-4, Reissue)
1. Upgrade report from IEC 60950-1 2nd edition to IEC 60950-1 2nd edition Amendment 2
2. No tests conducted under this investigation due to reissue of CB Test Report Ref.No. E300305-A10-CB-3 issued date 2010-09-24, CB-20164 and CB-20163, CB Test Report Ref.No. E300305-A10-CB-3, Correction 1, DK-20164-M1-UL and DK-20163-M1-UL
3. Delete China Deviation
4. Revise Critical Component List
- Change Manufacturer name from Cheil Industries to Samsung SDI
5. Change of applicant address from "964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA" to "(GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA".
6. revised of MFR. and Factory address

4788257219(E300305-A10-CB-4, Amendment 1)
1. Addition of the new factory information
- BRIDGEPOWER VINA COMPANY LIMITED LOT B9 THUY VAN INDUSTRIAL ZONE, VIET TRI CITY, PHU THO PROVINCE, VIETNAM
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- Addition of the alternate Appliance inlets, TU-301-S & TU-301-SP and SO-222 by Tecx-Unions Technology Corp
- Addition of the alternate Vietnam factory for Line filter and Transformer
- Correction of following in the critical component list
1) Enclosure manufacturer name from Samsung SDI to LOTTE ADVANCED MATERIALS CO LTD

2) Fuse manufacturer name from Save fusetech Inc to Cooper bussman Inc, from wickmann to littelfuse wickmann werke and standard number
3) standard number for X-capacitor and Y-capacitor
4) Optical isolator manufacturer name from SHARP CORP ELECTRONIC COMPONENTS GROUP to SHARP CORP ELECTRONIC COMPONENTS AND DEVICES BU, KODENSHI KOREA to AUK CORP
5) Y-capacitor and Bridging capacitor manufacturer name from NETRON TECH to WENDENG NETRONTECH ELECTRONICS CO LTD, DU SAN INDUSTRIAL CO LTD to APEX C&L CO LTD
6) Y-capacitor type, from SE or SF to SB or SE

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 30
- The means of connection to the mains supply is: Pluggable A
- The product is intended for use on the following power systems: TN, IT(for Norway only),
- The equipment disconnect device is considered to be: Appliance inlet
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (which includes all European national differences, including those specified in this test report)., ,
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): all output

Abbreviations used in the report:

- normal condition	N.C.	- single fault condition	S.F.C
- operational insulation	OP	- basic insulation	BI
- basic insulation between parts of opposite polarity:	BOP	- supplementary insulation	SI
- double insulation	DI	- reinforced insulation	RI

Indicate used abbreviations (if any)

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5.1.6	Max. allowed touch current (mA).....:	0.25 mAr.m.s.(secondary output was not earthed, but separated from primary circuit by reinforced insulation)	-
D.1	Measuring instrument	Simpson meter 228 used.	Pass

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

1.5.1	**TABLE: list of critical components**				Pass
object/part or Description	manufacturer/ trademark	type/model	technical data	standard (Edition or year)	mark(s) of conformity[1])
Appliance Inlet (Class I)	Rong Feng Industrial Co., Ltd.	SS-120	Rated 15 A / 250 V.	UL498, EN60320-1	US, VDE(40028101) or UL(E102641)
Appliance Inlet-Class I - Alternate	Tecx-Unions Technology Corp	TU-301-S & TU-301-SP	Rated 250V, 15A minimum, Max 105°C	DEMKO (ENEC-00647-A1), ANSI/UL 498, ANSI/UL 60320-1, IEC/EN 60320-1	US, UL (E220004)
Appliance Inlet (Class II)	Rong Feng Industrial Co., Ltd.	RF-180	Rated 2.5 A / 250 V.	UL498, EN60320-1	US, VDE(40030168) or UL(E102641)
Appliance Inlet – Class II - Alternate	Tecx-Unions Technology Corp	SO-222	Rated 250V, 2.5A minimum, Max. 75°C	DEMKO (ENEC-00859), VDE(40043268), ANSI/UL 498, ANSI/UL 60320-1, IEC/EN 60320-1	US, UL (E220004)
Enclosure(Fire/Mech./Elec.)	Sabic Innovative Plastics	940(f1)	Overall Sized approx. 95.0 by 54.0 by 32.0 mm. Min 2.0mm thickness, V-0, RTI 120°C. Composed of two pieces, secured together by ultrasonic welding.	UL94, UL746C	US, UL(E45329)
Enclosure(Fire/Mech./Elec.) - Alternate	LOTTE ADVANCED MATERIALS CO LTD	HN-1064(+)	Overall Sized approx. 95.0 by 54.0 by 32.0 mm. Min 2.0 mm thickness, V-0, RTI 80°C.	UL 94, UL746C	US, UL(E115797)
Fuse (F1)	Cooper bussman inc	SR-5	Rated 250V, T1.0AL	UL248-1, VDE0820, EN60127	US, VDE(122052) or VDE(40015513) or UL(E19180)
Fuse (F1) - Alternate	Littelfuse wickmann werke	(TR5) 382	Rated 250V, T1.0AL	UL248-1, VDE0820, EN60127	US, VDE(40018249) or VDE(126983), UL(E67006)
Thermistor (TH1)	Interchangeable	Interchangeable	NTC, 5 ohm or 10 ohm at 25°C.	Tested in equipment	-, -

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X-capacitor (C1) (Line to Line)	CARLI ELECTRONICS CO LTD	MPX	Rated 250V, 0.22uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, VDE(40008520) or UL(E120045)
X-capacitor (C1) (Line to Line) - Alternate	ISKRA	KNB 1560 or 1562 or 1563	Rated 250V, 0.22uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, VDE(139106) or UL(E145156)
X-capacitor (C1) (Line to Line) - Alternate	PILKOR	PCX2 335M or PCX2 337	Rated 250V, 0.22uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, FIMKO(FI 10463),NEMKO(P98100055),SE MKO(9740143/0 1), UL(E165646)
X-capacitor (C1) (Line to Line) - Alternate	OKAYA ELECTRIC INDUSTRIES CO LTD	LE	Rated 250V, 0.22uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, SEMKO(SE/014 2-1), UL(E47474)
X-capacitor (C1) (Line to Line) - Alternate	SUN IL ELECTRONICS INDUSTRY CO LTD	436D	Rated 250V, 0.22uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, VDE(40028050), UL(E199061)
X-capacitor (C2) (Line to Line)	CARLI ELECTRONICS CO LTD	MPX	Rated 250V, 0.1uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, VDE(4008520), UL(E120045)
X-capacitor (C2) (Line to Line) - Alternate	ISKRA	KNB 1560 or 1562 or 1563	Rated 250V, 0.1uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, VDE(139106), UL(E145156)
X-capacitor (C2) (Line to Line) - Alternate	PILKOR	PCX2 335M or PCX2 337	Rated 250V, 0.1uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, FIMKO(FI 10463),NEMKO(P98100055),SE MKO(9740143/0 1), UL(E165646)
X-capacitor (C2) (Line to Line) - Alternate	OKAYA ELECTRIC INDUSTRIES CO LTD	LE	Rated 250V, 0.1uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, SEMKO(SE/014 2-1), UL(E47474)
X-capacitor (C2) (Line to Line) - Alternate	SUN IL ELECTRONICS INDUSTRY CO LTD	436D	Rated 250V, 0.1uF. Marked with X1 or X2.	UL60384-14 IEC60384-14 EN132400	US, VDE(40028050), UL(E199061)
Discharge resistor (R1, R2)	Interchangeable	Interchangeable	1/8W, 470 K ohm.	Tested in equipment	-, -
Linefilter (L1)	Bridgepower Corp or Wendeng Jeil or Bridgepower VINA	3025531	Core: Ferrite, Coils: Polyarethane wire 105°C. Bobbin: (QMFZ2) Bakelite, type PF2736@, V-0, 150°C. see for	Tested in equipment	-, -

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			details.		
Bridge diode (BD1)	Interchangeable	Interchangeable	Rated Min. 600 V, 0.8 A	Tested in equipment	-, -
Electrolytic Capacitor (C3)	Interchangeable	Interchangeable	47 uF, 400 V, min. 85 degree.	Tested in equipment	-, -
Main Transformer(T1)	Bridgepower Corp or Wendeng Jeil or Bridgepower VINA	3025494	Class A insulation; Coils: Polyarethane wire 105°C. TIW Cosmolink, Type TIW-M 130°C. or TIW Furukawa TEX-E 130°C. Bobbin: (QMFZ2) Bakelite, type PF2736@, V-0, 150°C. see Enclosure for details.	Tested in equipment	-, -
Optical Isolator (U2)	Vishay Semiconductor gmbh	TCET1103G or TCET1103	Double protection optical isolator. Providing isolation voltage 5000 Vac	VDE0884, EN60950	US, BSI (7402),CQC(090 01038077)
Optical isolator (U2) - Alternate	COSMO ELECTRONICS CORP	KP1010	Double protection optical isolator. Providing isolation voltage 5000 Vac	UL1577, VDE0884, EN60950	US, SEMKO(101643 3),FIMKO(22498 6), UL(E169586)
Optical isolator (U2) - Alternate	SHARP CORP ELECTRONIC COMPONENTS AND DEVICES BU	PC123	Double protection optical isolator. Providing isolation voltage 5000 Vac	UL1577, VDE0884, EN60950	US, SEMKO(9216212), NEMKO(135957), UL(E64380)
Optical isolator (U2) - Alternate	AUK CORP	PC-17K	Double protection optical isolator. Providing isolation voltage 5000 Vac.	UL1577, VDE0884, EN60950	US, Semko(9805214/01-04), UL(E107486)
Y-Capacitor (C17, C18, C19, C20)	WENDENG NETRONTECH ELECTRONICS CO LTD	AA	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14, IEC60384-14 EN132400	US, VDE(089754) or UL(E339029)
Y-Capacitor	WENDENG	AD	250Vmin, 2200	UL60384-14,	US,

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Clause	Requirement + Test	Result - Remark	Verdict

(C17, C18, C19, C20)_Alternate	NETRONTECH ELECTRONICS CO LTD		pF. Marked with Y1 or Y2.	IEC60384-14 EN132400	VDE(089753) or UL(E339029)
Y-Capacitor (C17, C18, C19, C20) - Alternate	APEX C&L CO LTD	NK	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14, IEC60384-14 EN132400	US, FIMKO(FI 197620 A1),NEMKO(P97 101988),SEMKO (0219069/01-04), UL(E107942)
Y-Capacitor (C17, C18, C19, C20) - Alternate	APEX C&L CO LTD	NU	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14, IEC60384-14 EN132400	US, NEMKO(P97101 989),FIMKO(FI 197621 A1),SEMKO(021 9069/01-04), UL(E107942)
Y-Capacitor (C17, C18, C19, C20) - Alternate	DONGIL ELECTRONIC CO LTD	DA	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14 IEC60384-14 EN132400	US, FIMKO(FI 10228),NEMKO(P98100372),SE MKO(9807214/0 1-02), UL(E128646)
Y-Capacitor (C17, C18, C19, C20) - Alternate	DONGIL ELECTRONIC CO LTD	DS	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14 IEC60384-14 EN132400	US, FIMKO(FI 10228), UL(E128646)
Y-Capacitor (C17, C18, C19, C20) - Alternate	SAMWHA CAPACITOR	SD	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14, IEC60384-14 EN132400	US, VDE(40015804), UL(E97754)
Y-Capacitor (C17, C18, C19, C20) - Alternate	SAMWHA CAPACITOR	SC	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14, IEC60384-14 EN132400	US, VDE(40015805), UL(E97754)
Y-Capacitor (C17, C18, C19, C20) - Alternate	SUCCESS ELECTRONICS CO LTD	SB or SE	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL60384-14 IEC60384-14 EN132400	US, VDE(40020001) or VDE(40020002), UL(E114280)
Bridging Capacitor (C20) (Class II only)	WENDENG NETRONTECH ELECTRONIC CO LTD	AD	250Vmin, 2200 pF. Marked with Y1.	UL60384-14, IEC60384-14 EN132400	US, VDE(089753), UL(E339029)
Bridging Capacitor (C20) (Class II only) - Alternate	APEX C&L CO LTD	NK	250Vmin, 2200 pF. Marked with Y1.	UL60384-14, IEC60384-14 EN132400	US, FIMKO(FI 197620 A1),NEMKO(P97 101988),SEMKO (0219069/01-04), UL(E107942)
Bridging Capacitor (C20) (Class II only) -	DONGIL ELECTRONIC CO LTD	DA	250Vmin, 2200 pF. Marked with Y1.	UL60384-14 IEC60384-14 EN132400	US, FIMKO(FI 10228),NEMKO(P98100372),SE

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

Alternate					MKO(9807214/01-02), UL(E128646)
Bridging Capacitor (C20) (Class II only) - Alternate	SAMWHA CAPACITOR	SD	250Vmin, 2200 pF. Marked with Y1.	UL60384-14, IEC60384-14 EN132400	US, VDE(40015804), UL(E97754)
Bridging Capacitor (C20) (Class II only) - Alternate	SUCCESS ELECTRONICS CO LTD	SE	250Vmin, 2200 pF. Marked with Y1.	UL60384-14 IEC60384-14 EN132400	US, VDE(40020002), UL(E114280)
PWB	Interchangeable	Interchangeable	Min. V-1, min 105°C.	UL796	US, -
Bonding conductor (Class I only)	Interchangeable	Interchangeable	Mechanically clamped or secured on PWB from Appliance Inlet. Min 18 AWG, Green-and-Yellow Insulation.	UL758	US, -
Nameplate Label	Interchangeable	Interchangeable	Suitable for use on surface of Polycarbonate (PC) with max. 60 °C surface temperature.	UL969	US, -
Bonding Glue	Interchangeable	Interchangeable	Min. V-2, min. 100 °C for additional secureness of internal conductor.	UL94	US, -
Heatsink	Interchangeable	Interchangeable	Basic insulated conductive part, wrapped by 3 turns polyester film tape, (OANZ2), rated 130 °C to separate from U1(pri.) and fixed by clip without mechanical stress. Overall size 50 by 20 by 2 mm thickness.	Tested in equipment	-, -
Extruded Insulating Tubing	Interchangeable	Interchangeable	Rated 600 V, 125 °C, VW-1.	UL224	US, -

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

for C17, C18, C19, Choke coil of Bonding conductor					
RJ-45 connector(J1, J2) not for TNV circuit	Interchangeable	Interchangeable	Plastic material(QMFZ2) min. V-2, RTI min. 60 °C.	Tested in equipment	-, -
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
The CBTL has verified the component information.					

Enclosures

Type	Supplement Id	Description
Photographs	3-01	External view
Photographs	3-02	Internal view_JPOE130A4800FK01
Photographs	3-03	Internal view_JPOE130B4800FK01
Photographs	3-04	External view for Class II
Photographs	3-05	Internal view for Class II
Photographs	3-06	Internal view_JPOE130C4800FK01
Diagrams	4-01	Circuit_JPOE130A4800FK01
Diagrams	4-02	Circuit_JPOE130B4800FK01
Diagrams	4-03	Circuit_JPOE130A4800NK01
Diagrams	4-04	Circuit_JPOE130B4800NK01
Diagrams	4-05	Circuit_JPOE130C4800FK01
Schematics + PWB	5-01	PWB Layout_common
Schematics + PWB	5-02	PWB sub board for JPOE130B4800FK01
Schematics + PWB	5-03	PBW layout_JPOE130C
Miscellaneous	7-02	Linefilter_L1
Miscellaneous	7-03	Transformer_T1
Miscellaneous	7-05	National Differences - China and Japan and Australia
Miscellaneous	7-07	Manufacturer Declaration
Miscellaneous	7-08	Manufacturer Declaration
Miscellaneous	7-09	Manufacturer Declaration
Marking Plate	13-01	Marking Plate

Misc ID 7-09

CB TEST CERTIFICATE INFORMATION

Product	Switching Power Supply
Name and address of the Applicant	BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Name and address of the Manufacturer	BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Name and address of the Factory(ies)	WENDENG JEIL ELECTRONICS CO LTD DONG SHOU GUANGZHOU LU KAIFA-QU WENDENG-SHI SHANDONG CHINA BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA BRIDGEPOWER VINA COMPANY LIMITED LOT B9 THUY VAN INDUSTRIAL ZONE, VIET TRI CITY, PHU THO PROVINCE, VIETNAM
Rating and principal characteristics	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A
Trademarks (if any)	BridgePower
Model / Type ref.	JPOE130A48******, JPOE130B48******, JPOE130C48******,PW180*A48*****, PW180*B48*****, PW180*C48*****, PUTP-130A-***, PUTP-130B-***, PUTP-130C-*** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")
Additional information (if necessary)	N/A
A sample of the product was tested and found to be in conformity with	inclusive of CENELEC Common Modifications. See Test Report for National Differences.
As shown in the Test Report Ref. No. which forms part of this Certificate	E300305-A10

Client Representative	Jongnam Jeon

Misc ID 7-09

Client email (or fax)	jjweb@bridgepower.co.kr

This form is to acknowledge that the above information has been reviewed and the material has been found to be accurate as stated. This is also to record client's confirmation that above factories manufacture product(s) that are equal to those submitted for testing and certification. (Refer to IECEE 02, Sub-clause 4.2.5: "When the application covers more than one factory, the address of each factory shall be stated in the CB Test Certificate and the NCB shall take steps to ensure that the products from all the factories are equal. That shall be confirmed in the Test Report.")

Signed: _____ **Dated:** 2017-12-11

***Definitions** per IECEE 02 (http://www.iecee.com/cbscheme/pdf/IECEE02.pdf):
Applicant: A firm or a person who applies to an NCB for obtaining a CB Test Certificate.
Manufacturer: An organization, situated at a stated location or locations, that carries out or controls such stages in the manufacture, assessment, handling and storage of a product that enables it to accept responsibility for continued compliance of the product with the relevant requirements and undertakes all obligations in that connection.
Factory: The location(s) at which the product is produced or assembled and follow-up service is established by the NCB.

Ref. Certif. No.

DK-41642-UL

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	Switching Power Supply
Name and address of the applicant Nom et adresse du demandeur	BRIDGEPOWER CORP (Gosaek-dong) 16 Omokchen-ro 132beon-gil Gwonseon-gu Suwon-si, 441-813 Gyeonggi Korea
Name and address of the manufacturer Nom et adresse du fabricant	BRIDGEPOWER CORP (Gosaek-dong) 16 Omokchen-ro 132beon-gil Gwonseon-gu Suwon-si, 441-813 Gyeonggi Korea
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	BRIDGEPOWER CORP (Gosaek-dong) 16 Omokchen-ro 132beon-gil Gwonseon-gu Suwon-si, 441-813 Gyeonggi Korea ☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A
Trademark (if any) Marque de fabrique (si elle existe) Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	BridgePower
Model / Type Ref. Ref. De type	JPOE130A48******, JPOE130B48******, JPOE130C48******, PUTP-130A-***, PUTP-130B-***, PUTP-130C-***, See Page 2
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Class I ☒ Additional Information on page 2
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	IEC 60950-1(ed.2), IEC 60950-1(ed.2);am1, IEC 60950-1(ed.2);am2
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	E300305-A10-CB-4 issued on 2014-10-28

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

☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
☒ UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2014-10-28

Signature:

Jan-Erik Storgaard

Ref. Certif. No.

DK-41642-UL

Model Details:
JPOE130A48******,JPOE130B48******,JPOE130C48******,PUTP-130A-***,PUTP-130B-***,PUTP-130C-***,PW180*A48*****,PW180*B48*****,PW180*C48***** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")

Factories:

WENDENG JEIL ELECTRONICS CO LTD
DONG SHOU GUANGZHOU LU
KAIFA-QU
WENDENG-SHI, SHANDONG China

Additional Information:
Additionally evaluated to EN 60950-1:2006/ A11:2009/ A1:2010/ A12:2011/ A2:2013; National Differences specified in the CB Test Report.

Additional information (if necessary)
Information complémentaire (si nécessaire)

- ☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
- ☒ UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
- ☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
- ☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2014-10-28

Signature:

Jan-Erik Storgaard

Ref. Certif. No.

DK-41643-UL

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	Switching Power Supply
Name and address of the applicant Nom et adresse du demandeur	BRIDGEPOWER CORP (Gosaek-dong) 16 Omokchen-ro 132beon-gil Gwonseon-gu Suwon-si, 441-813 Gyeonggi Korea
Name and address of the manufacturer Nom et adresse du fabricant	BRIDGEPOWER CORP (Gosaek-dong) 16 Omokchen-ro 132beon-gil Gwonseon-gu Suwon-si, 441-813 Gyeonggi Korea
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	BRIDGEPOWER CORP (Gosaek-dong) 16 Omokchen-ro 132beon-gil Gwonseon-gu Suwon-si, 441-813 Gyeonggi Korea ☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A
Trademark (if any) Marque de fabrique (si elle existe)	BridgePower
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	
Model / Type Ref. Ref. De type	JPOE130A48******, JPOE130B48******, JPOE130C48******, PUTP-130A-***, PUTP-130B-***, PUTP-130C-***, See Page 2
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Class II ☒ Additional Information on page 2
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	IEC 60950-1(ed.2), IEC 60950-1(ed.2);am1, IEC 60950-1(ed.2);am2
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	E300305-A10-CB-4 issued on 2014-10-28

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

☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
☒ UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2014-10-28

Signature:

Jan-Erik Storgaard

Test Report issued under the responsibility of:

TEST REPORT
IEC 60950-1
Information technology equipment - Safety - Part 1: General requirements

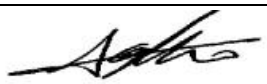
Report Reference No ..... :	E300305-A10-CB-4
Date of issue ..... :	2014-10-28
Total number of pages ..... :	58
CB Testing Laboratory ..... :	UL Korea, Ltd.
Address ..... :	#808, Manhatan Building, 36-2 Yeouido-Dong, Yeongdeungpo-Gu, Seoul 150-749, Korea
Applicant's name ..... :	BRIDGEPOWER CORP
Address ..... :	(GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Test specification:	
Standard ..... :	IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1F
Test Report Form originator ..... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2014-02

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.

General disclaimer

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	Switching Power Supply
Trade Mark ..... :	BridgePower
Manufacturer ..... :	BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Model/Type reference ..... :	JPOE130A48******, JPOE130B48******, JPOE130C48******,PW180*A48*****, PW180*B48*****, PW180*C48*****, PUTP-130A-***, PUTP-130B-***, PUTP-130C-*** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")
Ratings ..... :	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A

Testing procedure and testing location:		
[x]	**CB Testing Laboratory**	
	Testing location / address .....:	UL Korea, Ltd. #808, Manhatan Building, 36-2 Yeouido-Dong, Yeongdeungpo-Gu, Seoul 150-749, Korea
[ ]	**Associated CB Test Laboratory**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	InYoung Hwang 
	Approved by (name + signature)....:	Frederick Won 
[ ]	**Testing Procedure: TMP/CTF Stage 1**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
[ ]	**Testing Procedure: WMT/CTF Stage 2**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Witnessed by (name + signature) ..:	
	Approved by (name + signature)....:	
[ ]	**Testing Procedure: SMT/CTF Stage 3 or 4**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
	Supervised by (name + signature) .:	
[ ]	**Testing Procedure: RMT**	
	Testing location / address .....:	
	Tested by (name + signature) .....:	
	Approved by (name + signature)....:	
	Supervised by (name + signature) .:	

List of Attachments
National Differences (33 pages)
Enclosures (35 pages)
Summary of Testing:
All Applicable tests according to the referenced standard(s) have been carried out
Summary of Compliance with National Differences:

Countries outside the CB Scheme membership may also accept this report.

List of countries addressed: AT, BE, BG, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, IT, JP, KR, NL, NO, PL, PT, RO, SE, SG, SI, SK, UA

The product fulfills the requirements of: N/A

Copy of Marking Plate - Refer to Enclosure titled Marking Plate for copy.

Test item particulars :	
Equipment mobility ..... :	movable
Connection to the mains ..... :	pluggable A
Operating condition ..... :	continuous
Access location ..... :	restricted access location
Over voltage category (OVC) ..... :	OVC II
Mains supply tolerance (%) or absolute mains supply values ..... :	+10%, -10%
Tested for IT power systems ..... :	Yes(for Norway only)
IT testing, phase-phase voltage (V) ..... :	230 Vac
Class of equipment ..... :	Class I (earthed) or Class II (double insulated)
Considered current rating of protective device as part of the building installation (A) ..... :	0.5
Pollution degree (PD) ..... :	PD 2
IP protection class ..... :	IP X0
Altitude of operation (m) ..... :	Up to 2000m
Altitude of test laboratory (m) ..... :	N/A
Mass of equipment (kg) ..... :	0.17
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(s) of receipt of test item ..... :	2008-12-11
Date(s) of Performance of tests ..... :	2008-12-11
General remarks: "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a point is used as the decimal separator.	
Manufacturer's Declaration per Sub Clause 4.2.5 of IECEE 02:	Yes
The application for obtaining a CB Test Certificate includes more than one factory and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... When differences exist, they shall be identified in the General Product Information section.	
Name and address of Factory(ies):	WENDENG JEIL ELECTRONICS CO LTD DONG SHOU GUANGZHOU LU KAIFA-QU WENDENG-SHI SHANDONG CHINA

BRIDGEPOWER CORP
(GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL
GWONSEON-GU
SUWON-SI GYEONGGI 441-813 KOREA

GENERAL PRODUCT INFORMATION:

Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

Product Description

Switching Mode Power Supply(AC/DC adapter), consists of electronic components mounted on PWB, a switching transformer and electronic components mounted on PWB, housed with a plastic enclosure.

Model Differences

The applicant submitted samples of models JPOE130A4800FK01 and JPOE130B4800FK01 for testing.

Model JPOE130B4800FK01 is identical to model JPOE130A4800FK01 except for model designation and output circuitry with the different rated output current.

Model JPOE130C******** is identical to model JPOE130A********, except model designation and secondary circuit not affecting on the safety and construction.
Models PW180********* and PUTP-130*-*** are identical to model JPOE130********* except for model designation.

Nomenclature
JPOE130*(a)**(b)**(c)*(d)*(e)**(f)
(a) means Design revision changes, may by A, B or C as rated output current, A or C - 0.4A or 0.35A, B - 0.32A or 0.35A;
(b) means output voltage, 48;
(c) means standards output cord options, may be 00 to 99;
(d) means standards input cord options, may be F (Class I) or N (Class II);
(e) means custom options, may be K or C;
(f) means custom options, may be 00 to 99 or AA to ZZ.

PW180*(a)*(b)**(c)**(d)*(e)**(f)
(a) means custom options, may be K or C;
(b) means design revision changes, may be A, B or C as rated output current, A or C - 0.4A or 0.35A, B - 0.32A or 0.35A;
(c) means output voltage, 48;
(d) means standards output cord options, may be 00 to 99;
(e) means standards input cord options, may be F (Class I) or N (Class II);
(f) means custom options, may be 00 to 99 or AA to ZZ.

PUTP-130*(a)-**(b)*(c)
(a) means design revision changes, may be A, B or C as rated output current, A or C - 0.4A or 0.35A, B - 0.32A or 0.35A;

(b) means custom options, may be 00 to 99.
(c) means standards input cord options, may be Blank (Class I) or N (Class II);

Additional Information

Max. Normal Load Condition:
JPOE130A4800FK01 - 47.90 Vdc, 0.4 A;
JPOE130B4800FK01 - 47.57 Vdc, 0.32 A or 46.9 Vdc, 0.35 A

Before placing the products in the different countries, the manufacturer has to guarantee that:
1. Operating instructions and warnings are written in an accepted language of the certain country.
2. The equipment is in compliance with the national standards of the certain country.

Amendment 1, 06CA55186
- Alternate rated output current; 0.35A

Correction 1, 06CA55186
- Type error correction

Amendment 2, 07CA04983
- Alternate Inlet, RF-180 by RongFeng Industrial Co. Ltd. for Class II equipment.

Amendment 3, 07CA18853
- Model addition, JPOE130C**(b)**(c)*(d)*(e)**(f), PW180C*(b)**(c)**(d)*(e)**(f), PUTP-130C-**(b)*(c) with secondary circuit revision, JPOE130C**(b)**(c)*(d)*(e)**(f) is identical to JPOE130A**(b)**(c)*(d)*(e)**(f), except model designation and secondary circuit not affecting on the safety and construction.

Reissued, E300305-A10-2, 08CA62248
- Applicant, Manufacturer, Factory name and address change due to movement, see Report cover page for new company name and address.
- Delete Factory, Ault Korea Corp.
- Revision of Nomenclature.
- Manufacturer change of Line filter(L1) and Transformer(T1) to BRIDGEPOWER CORP and Enclosure to Sabic Innovative Plastics in the appended table 1.5.1.
- Addition of National deviation

Correction 1, 09CA03570
- Correction of Nomenclature, (e) for model JPOE130 series and (a) for model PW180 series due to applicant's request.
- Correction of sub. clause 1.5.
- Correction of L1, T1 manufacturer in the appended table 1.5.1.

Correction 2, 09CA14937
- Correction of Main Transformer (T1) type due to typo.

Reissue, 10CA46694
1. Upgrade report from IEC 60950-1 1st edition to IEC 60950-1 2nd edition
2. No tests conducted under this investigation due to reissue of CB Test Report Ref.No. E300305-A10-CB-2 issued date 2008-12-12, E300305-A10-CB-2,Correction 1 issued 2009-01-15, E300305-A10-CB-2, Correction 2 issued 2009-03-26, CB Test Certificate Ref.No. DK-14726 issued data 2008-12-16 , DK-14727 issued data 2008-12-16 , DK-14726-M1 issued 2009-03-04 , DK-14727-M1 issued 2009-03-04.
3. Add manufacturer declaration.
4.For China, Japan and Australia differences, it is not listed in the CB bulletin 112A dated Dec. 2006 for IEC

60950-1, therefore the deviation of IEC 60950 3rd edition is used for China and Japan and the deviation of IEC 60950-1 1st edition used for Australia, see Enclosure, Miscellaneous.
5. Add trademark "BridgePower"

Correction. SR9742118(E300305-A10-CB-3, Correction1)
- Add humidity test time (48hours) in clause 2.9.2 due to missing.
- Add "Also complied with humidity test" in table 5.2 supplementary information.

4786594328(E300305-A10-CB-4, Reissue)
1. Upgrade report from IEC 60950-1 2nd edition to IEC 60950-1 2nd edition Amendment 2
2. No tests conducted under this investigation due to reissue of CB Test Report Ref.No. E300305-A10-CB-3 issued date 2010-09-24, CB-20164 and CB-20163, CB Test Report Ref.No. E300305-A10-CB-3, Correction 1, DK-20164-M1-UL and DK-20163-M1-UL
3. Delete China Deviation
4. Revise Critical Component List
- Change Manufactuer name from Cheil Industries to Samsung SDI
5. Change of applicant address from "964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA" to "(GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA".
6. revised of MFR. and Factory address

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 30
- The means of connection to the mains supply is: Pluggable A
- The product is intended for use on the following power systems: TN, IT(for Norway only),
- The equipment disconnect device is considered to be: Appliance inlet
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 (which includes all European national differences, including those specified in this test report)., ,
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): all output

Abbreviations used in the report:

- normal condition	N.C.	- single fault condition	S.F.C
- operational insulation	OP	- basic insulation	BI
- basic insulation between parts of opposite polarity:	BOP	- supplementary insulation	SI
- double insulation	DI	- reinforced insulation	RI

Indicate used abbreviations (if any)

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

1	**GENERAL**		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950-1 or relevant component standard		Pass
1.5.2	Evaluation and testing of components	Components certified to IEC harmonized standard and checked for correct application. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component Standard.	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers	(see Annex C)	Pass
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors bridging insulation	Between lines; X1 or X2 capacitor according to IEC 60384-14;2005. Between primary and secondary: Y1 or Y2 capacitors according to IEC 60384-14:2005.	Pass
1.5.7	Resistors bridging insulation	Two capacitors in series, each complying with IEC 60384-14:2005, subclass Y1 or Y2.	Pass
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		Pass
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
1.5.8	Components in equipment for IT power systems		Pass
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
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**		Pass
1.6.1	AC power distribution systems	AC power distribution systems are classified as TN. In Norway, IT systems apply.	Pass
1.6.2	Input current	(see appended table 1.6.2)	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	**Marking and instructions**		Pass
1.7.1	Power rating and identification markings		Pass
1.7.1.1	Power rating mark		Pass
	Multiple mains supply connections ..... :		N/A
	Rated voltage(s) or voltage range(s) (V) ..... :	100-250 Vac	Pass
	Symbol for nature of supply, for d.c. only ..... :		N/A
	Rated frequency or rated frequency range (Hz) .... :	50-60 Hz	Pass
	Rated current (mA or A) ..... :	0.5 A	Pass
1.7.1.2	Identification markings		Pass
	Manufacturer's name or trademark or identification mark..... :	Bridgepower Corp. or E300305	Pass
	Model identification or type reference ..... :	(see cover page)	Pass
	Symbol for Class II equipment only..... :	for Class II equipment only	Pass
	Other markings and symbols..... :	Additional symbols or marking does not give rise to misunderstanding.	Pass
1.7.1.3	Use of graphical symbols		Pass
1.7.2	Safety instructions and marking		Pass
1.7.2.1	General		N/A
1.7.2.2	Disconnect devices		Pass
1.7.2.3	Overcurrent protective device		Pass
1.7.2.4	IT Power distribution systems	Norway Only	Pass
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment ..... :	Equipment is auto-ranging.	N/A
	Method and means of adjustment; reference to installation instructions ..... :		N/A
1.7.5	Power outlets on the equipment..... :	No standard power outlets are provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :	Marking adjacent to fuse on PCB as "T1A 250V"	Pass
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals ..... :		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	Not affecting safety.	N/A
1.7.8.1	Identification, location and marking ..... :		N/A
1.7.8.2	Colours ..... :		N/A
1.7.8.3	Symbols according to IEC 60417 ..... :		N/A
1.7.8.4	Markings using figures..... :		N/A
1.7.9	Isolation of multiple power sources ..... :		N/A
1.7.10	Thermostats and other regulating devices ..... :		N/A
1.7.11	Durability	All markings provided on UL Recognized component labels suitable for surface they are applied upon.	Pass
1.7.12	Removable parts	No removable part.	N/A
1.7.13	Replaceable batteries..... :	No batteries provided.	N/A
	Language(s) ..... :		-
1.7.14	Equipment for restricted access locations..... :	The equipment is not intended for installation in a Restricted Access Area.	N/A

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

2	**PROTECTION FROM HAZARDS**		Pass
2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts		Pass
	Test by inspection..... :	No access with test finger and test pin to any parts with only basic insulation to ELV or hazardous voltage. Any hazardous parts accessible are unlikely.	Pass
	Test with test finger (Figure 2A) ..... :	The test finger was unable to contact bare hazardous parts, basic insulation, or ELV circuits.	Pass
	Test with test pin (Figure 2B)..... :	The test pin was unable to contact bare hazardous parts.	Pass
	Test with test probe (Figure 2C)..... :	No TNV present.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm) ..... :	(see appended table 2.10.5)	-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards ..... :	No energy hazard in operator area.	Pass
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		Pass
	Measured voltage (V); time-constant (s) ..... :	Vo 374 Vpk, 37 % Vo 138 Vpk, Vtc 0 Vpk.	-
2.1.1.8	Energy hazards - d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply .. :		N/A
	b) Internal battery connected to the mains supply :		N/A
2.1.1.9	Audio amplifiers..... :		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2	**SELV circuits**		Pass
2.2.1	General requirements		Pass
2.2.2	Voltages under normal conditions (V) ..... :	All accessible voltages are less than 42.4 Vp or 60 V dc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V) ..... :	Under fault conditions voltages never exceed 71V peak and 120Vdc and do not exceed 42.4V peak or 60V dc for more than 0.2 sec.	Pass
2.2.4	Connection of SELV circuits to other circuits ..... :	SELV circuits are only connected to other secondary circuits. SELV circuit and all interconnected circuits separated from primary by reinforced insulation. The SELV circuit does not exceed the SELV limits under normal and fault conditions.	Pass
2.3	**TNV circuits**		N/A
2.3.1	Limits		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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.4	**Limited current circuits**		Pass
2.4.1	General requirements		Pass
2.4.2	Limit values	46.8 mApk	Pass
	Frequency (Hz) ..... :	66.8 KHz	-
	Measured current (mA)..... :	Normal: 2.86 mApk, Abnormal: C17 short 2.26 mApk, C20 short 2.38 mApk	-
	Measured voltage (V) ..... :	Normal: 5.72 Vpk, Abnormal: C17 short 4.52 Vpk, C20 short 4.76 Vpk	-
	Measured circuit capacitance (nF or µF)..... :	Maximum normal circuit voltage less than 450 Vpk or dc. Circuit capacitance less than 0.1 uF.	-
2.4.3	Connection of limited current circuits to other circuits	The LIMITED CURRENT CIRCUIT connected to other circuits complies with the requirements of Sub-clause 2.4.1.	Pass

2.5	**Limited power sources**		Pass
	a) Inherently limited output		Pass
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters ..... :		-
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :	Normal: 48.0 V / 0.76 A / 36.33 VA; Abnormal: R13 open 21.2 V / 0 A / 0 VA, R14 short 35.2 V / 0 A / 0 VA	-
	Current rating of overcurrent protective device (A) :	-	-

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6	**Provisions for earthing and bonding**		Pass
2.6.1	Protective earthing	for Class I equipment only	Pass
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing ..... :		N/A
2.6.3	Protective earthing and protective bonding conductors		Pass
2.6.3.1	General	for Class I equipment only	Pass
2.6.3.2	Size of protective earthing conductors	Appliance Inlet used.	N/A
	Rated current (A), cross-sectional area (mm²), AWG ..... :		-
2.6.3.3	Size of protective bonding conductors		Pass
	Rated current (A), cross-sectional area (mm²), AWG ..... :	1.0 A, 0.75 mm2, 18 AWG	-
	Protective current rating (A), cross-sectional area (mm²), AWG..... :	-	-
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (ohm), voltage drop (V), test current (A), duration (min) ..... :	0.019 ohm, 0.82 Vdrop, 40 A, 2 minute	Pass
2.6.3.5	Colour of insulation ..... :	Green and yellow	Pass
2.6.4	Terminals		Pass
2.6.4.1	General	for Class I equipment only	Pass
2.6.4.2	Protective earthing and bonding terminals		Pass
	Rated current (A), type, nominal thread diameter (mm) ..... :	Appliance Inlet used.	-
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Unit employs an appliance inlet.	N/A
2.6.5	Integrity of protective earthing		Pass
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switches or fuses in earthing conductors.	N/A
2.6.5.3	Disconnection of protective earth	Disconnection of the protective earth at one assembly removes connection of HAZARDOUS VOLTAGES from the other assemblies at the same time.	Pass
2.6.5.4	Parts that can be removed by an operator	It is not possible to disconnect earth without disconnecting mains.	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.5	Parts removed during servicing	Connections to protective earthing cannot be removed unless hazardous voltage is removed from the part simultaneously.	Pass
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		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**		Pass
2.7.1	Basic requirements		Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3.7		N/A
2.7.3	Short-circuit backup protection		Pass
2.7.4	Number and location of protective devices ..... :	One protective device in the "LIVE" phase.	Pass
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel..... :		N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) ..... :		N/A
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

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic material is not used.	Pass
2.9.2	Humidity conditioning		Pass
	Relative humidity (%), temperature (°C)..... :	95%, 30degreeC, 48hours. (All of the transformer has passed the humidity test)	-
2.9.3	Grade of insulation	Insulation materials comply with sub-clauses 2.10, 4.5.1 and 5.2.	Pass
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used..... :		-

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General		Pass
2.10.1.1	Frequency ..... :	Less than 30kHz	Pass
2.10.1.2	Pollution degrees ..... :	2	Pass
2.10.1.3	Reduced values for functional insulation	See 5.3.4	Pass
2.10.1.4	Intervening unconnected conductive parts		Pass
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	Unit was connected to a 250V TN power system.	Pass
2.10.2.1	General		Pass
2.10.2.2	RMS working voltage		Pass
2.10.2.3	Peak working voltage		Pass
2.10.3	Clearances		Pass
2.10.3.1	General		Pass
2.10.3.2	Mains transient voltages		Pass
	a) AC mains supply ..... :	Overvoltage Category II; Mains transient voltage is 2500Vpk	Pass
	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)	Pass
2.10.3.4	Clearances in secondary circuits	Functional insulation only. Waived by short circuit fault test per Sub-clause 5.3.4. See appended table 5.3.	N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply ..... :	See 2.10.3.2	Pass
2.10.3.7	Transients from d.c. mains supply ..... :		N/A
2.10.3.8	Transients from 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		N/A
	For an a.c. mains supply ..... :		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For a d.c. mains supply ..... :		N/A
	b) Transients from a telecommunication network		N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass
	CTI tests ..... :	Material group IIIb; 100 <=CTI <175.	-
2.10.4.3	Minimum creepage distances	See appended table 2.10.3 and 2.10.4	Pass
2.10.5	Solid insulation	Approved optical isolator provided.	Pass
2.10.5.1	General		Pass
2.10.5.2	Distances through insulation		Pass
2.10.5.3	Insulating compound as solid insulation	Certified optical isolator used.	Pass
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints	Certified optical isolator used(see appended table 1.5.1)	Pass
2.10.5.6	Thin sheet material - General	Two layers used, each of which complies with the required electric strength test.	Pass
2.10.5.7	Separable thin sheet material		Pass
	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		Pass
	Electric strength test ..... :	(see appended table 2.10.5)	-
2.10.5.11	Insulation in wound components		Pass
2.10.5.12	Wire in wound components		Pass
	Working voltage ..... :	Certified triple insulated wire used secondary of T1.	Pass
	a) Basic insulation not under stress ..... :		N/A
	b) Basic, supplementary, reinforced insulation..... :	Supplementary or Reinforced	Pass
	c) Compliance with Annex U ..... :	Wiring meets the requirements of Annex U	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Two wires in contact inside wound component; angle between 45° and 90° ..... :	1 layer of insulation tape provided.	Pass
2.10.5.13	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		N/A
	Working voltage ..... :		N/A
	- Basic insulation not under stress ..... :		N/A
	- Supplementary, reinforced insulation ..... :		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
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		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		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		Pass
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heat sinks which could damage the insulation and cause hazard.	Pass
3.1.3	Securing of internal wiring		Pass
3.1.4	Insulation of conductors	The insulation of the individual conductors are suitable for the application and the working voltage.	Pass
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	All conductors are reliably secured.	Pass
	10 N pull test		Pass
3.1.10	Sleeving on wiring		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2	**Connection to mains supply**		Pass
3.2.1	Means of connection	The unit is provided with an appliance inlet.	Pass
3.2.1.1	Connection to an a.c. mains supply		Pass
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	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 60320 and UL498.	Pass
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		-
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		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		N/A
	Diameter of minor dimension D (mm); test mass (g) ..... :		-
	Radius of curvature of cord (mm) ..... :		-
3.2.9	Supply wiring space		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		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 (mm²) ..... :		-
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type and nominal thread diameter (mm) ..... :		-
3.3.6	Wiring terminals 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**		Pass
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	The equipment is provided with an appliance coupler.	Pass
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized	No parts remain energized when the disconnect device is removed.	Pass
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Disconnect device disconnects all poles simultaneously.	Pass
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.5	**Interconnection of equipment**		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits are SELV CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		N/A
4	**PHYSICAL REQUIREMENTS**		Pass
4.1	Stability		N/A
	Angle of 10°		N/A
	Test force (N)..... :		N/A
4.2	**Mechanical strength**		Pass
4.2.1	General		Pass
	Rack-mounted equipment		N/A
4.2.2	Steady force test, 10 N		Pass
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		Pass
4.2.5	Impact test		Pass
	Fall test		Pass
	Swing test		N/A
4.2.6	Drop test; height (mm)..... :		N/A
4.2.7	Stress relief test	No indication of shrinkage or distortion on enclosures due to the stress relief test 80 degree C/7 h.	Pass
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3	**Design and construction**		Pass
4.3.1	Edges and corners		Pass
4.3.2	Handles and manual controls; force (N) ..... :		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances over supplementary or reinforced insulation is likely to occur.	Pass
4.3.5	Connection by plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	N/A
4.3.6	Direct plug-in equipment		N/A
	Torque ..... :		N/A
	Compliance with the relevant mains plug standard:		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		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		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids..... :		N/A
	Quantity of liquid (l)..... :		N/A
	Flash point (°C)..... :		N/A
4.3.13	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class ..... :		-
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types ..... :		N/A
4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas..... :		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations ..... :		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)..... :		N/A
	Is considered to cause pain, not injury. b)..... :		N/A
	Considered to cause injury. c)..... :		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning..... :		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning..... :		N/A
4.5	**Thermal requirements**		Pass
4.5.1	General		Pass
4.5.2	Temperature tests	(see appended table 4.5)	Pass
	Normal load condition per Annex L ..... :	Rated output current	-
4.5.3	Temperature limits for materials		Pass
4.5.4	Touch temperature limits		Pass
4.5.5	Resistance to abnormal heat..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6	**Openings in enclosures**		Pass
4.6.1	Top and side openings		Pass
	Dimensions (mm) ..... :	No openings	-
4.6.2	Bottoms of fire enclosures		Pass
	Construction of the bottom, dimensions (mm)..... :	No openings or no risk of ignition and spread of flame by suitable construction.	-
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) ..... :	-	-

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 used.	Pass
	Method 1, selection and application of components wiring and materials		Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		Pass
4.7.2.1	Parts requiring a fire enclosure		Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General		Pass
4.7.3.2	Materials for fire enclosures	Equipment is movable with mass less than 18 kg. Fire enclosure material is V-1 minimum.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	Fire enclosure covers all parts.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Materials are minimum V-2	Pass
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General	Measured between mains and output connector	Pass
5.1.2	Configuration of equipment under test (EUT)	EUT has only one mains connection.	N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
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		Pass
5.1.4	Application of measuring instrument	Tested using D.1 measuring instrument.	Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Supply voltage (V) ..... :	265 V, 60 Hz	-
	Measured touch current (mA)..... :	0.08 mAr.m.s.	-
	Max. allowed touch current (mA)..... :	0.25 mAr.m.s.(secondary output was not earthed, but seperated from primary circuit by reinforced insulation)	-
	Measured protective conductor current (mA)..... :	-	-
	Max. allowed protective conductor current (mA)... :	-	-
5.1.7	Equipment with touch current exceeding 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		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	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**		Pass
5.2.1	General	(see appended table 5.2)	Pass
5.2.2	Test procedure		Pass
5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation		Pass
5.3.2	Motors		N/A
5.3.3	Transformers	(see appended Annex C)	Pass
5.3.4	Functional insulation..... :	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE..... :		N/A
5.3.7	Simulation of faults		Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests. Electric Strength tests performed after abnormal and fault tests.	Pass
5.3.9.1	During the tests		Pass
5.3.9.2	After the tests		Pass
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
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		N/A
	Supply voltage (V) ..... :		-
	Current in the test circuit (mA)..... :		-
6.1.2.2	Exclusions..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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**		N/A
7.1	General		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

IEC 60950-1			
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 ..... :		N/A
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
A.3.2	Test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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) ..... :	-	-

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Clause	Requirement + Test	Result - Remark	Verdict
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		Pass
	Position ..... :	(see appended table 1.5.1)	-
	Manufacturer ..... :	(see appended table 1.5.1)	-
	Type ..... :	(see appended table 1.5.1)	-
	Rated values ..... :	Class A	-
	Method of protection ..... :	Inherently protection	-
C.1	Overload test	(see appended table 5.3)	Pass
C.2	Insulation	(see appended table 5.2)	Pass
	Protection from displacement of windings ..... :	Triple insulated wire used and 2 mm margin tape provided on primary pin side.	Pass
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		Pass
D.1	Measuring instrument	Simpson meter 228 uesd.	Pass
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)**		Pass

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Clause	Requirement + Test	Result - Remark	Verdict

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 supply ..... :		N/A
G.2.3	Unearthed d.c. mains supply ..... :		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
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 ..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict
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)**		Pass
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	Rated output current	Pass
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
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**		Pass
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		N/A
	- Preferred climatic categories..... :		N/A
	- Maximum continuous voltage..... :		N/A
	- Combination Pulse current..... :		N/A
	Body of the VDR Test according to IEC60695-11-5 ..... :		N/A
	Body of the VDR. Flammability class of material (min V-1) ..... :		N/A
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
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)**		Pass
	..... :	TIW(R/C) provided.	-

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Clause	Requirement + Test	Result - Remark	Verdict
V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A
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
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		Pass
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N/A
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
CC	**ANNEX CC, EVALUATION OF INTEGRATED CIRCUIT (IC) CURRENT LIMITERS**		N/A
CC.1	General		N/A
CC.2	Test program 1 ..... :		N/A
CC.3	Test program 2 ..... :		N/A
CC.4	Test program 3 ..... :		N/A
CC.5	Compliance..... :		N/A
DD	**ANNEX DD, REQUIREMENTS FOR THE MOUNTING MEANS OF RACK-MOUNTED EQUIPMENT**		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N ..... :		N/A
DD.3	Mechanical strength test, 250 N, including end stops ..... :		N/A
DD.4	Compliance..... :		N/A
EE	**ANNEX EE, HOUSEHOLD AND HOME/OFFICE DOCUMENT/MEDIA SHREDDERS**		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols ..... :		N/A
	Information of user instructions, maintenance and/or servicing instructions..... :		N/A
EE.3	Inadvertent reactivation test ..... :		N/A
EE.4	Disconnection of power to hazardous moving parts		N/A
	Use of markings or symbols ..... :		N/A
EE.5	Protection against hazardous moving parts ..... :		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	**TABLE: list of critical components**				Pass
object/part or Description	manufacturer/ trademark	type/model	technical data	standard (Edition or year)	mark(s) of conformity[1])
Appliance Inlet (Class I)	Rong Feng Industrial Co., Ltd.	SS-120	Rated 15 A / 250 V.	UL498, EN60320-1	US, VDE(40028101)
Appliance Inlet (Class II)	Rong Feng Industrial Co., Ltd.	RF-180	Rated 2.5 A / 250 V.	UL498, EN60320-1	US, VDE(40030168)
Enclosure(Fire/Mech./Elec.)	Sabic Innovative Plastics	940(f1)	Overall Sized approx. 95.0 by 54.0 by 32.0 mm. Min 2.0mm thickness, V-0, RTI 120°C. Composed of two pieces, secured together by ultrasonic welding.	UL94, UL746C	US, UL(E45329)
Enclosure(Fire/Mech./Elec.) - Alternate	Samsung SDI	HN-1064(+)	Overall Sized approx. 95.0 by 54.0 by 32.0 mm. Min 2.0 mm thickness, V-0, RTI 80°C.	UL 94, UL746C	US, UL(115797)
Fuse (F1)	Save fusetech Inc	SR-5	Rated 250V, T1.0AL	UL248, VDE0820, EN60127	US, VDE(122052) or VDE(40015513)
Fuse (F1) - Alternate	WICKMANN	(TR5) 382	Rated 250V, T1.0AL	UL248, VDE0820, EN60127	US, VDE(40018249) or VDE(126983)
Thermistor (TH1)	Interchangeable	Interchangeable	NTC, 5 ohm or 10 ohm at 25°C.	Tested in equipment	-, -
X-capacitor (C1) (Line to Line)	CARLI	MPX	Rated 250V, 0.22uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, VDE(4008520)
X-capacitor (C1) (Line to Line) - Alternate	ISKRA	KNB 1560 or 1562 or 1563	Rated 250V, 0.22uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, VDE(139106) or VDE(40030565)
X-capacitor (C1) (Line to Line) - Alternate	PILKOR	PCX2 335M or PCX2 337	Rated 250V, 0.22uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, FIMKO(FI 10463),NEMKO(P98100055),SEMKO(9740143/01)
X-capacitor (C1) (Line to Line) - Alternate	OKAYA	LE	Rated 250V, 0.22uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, SEMKO(SE/0142-1)

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X-capacitor (C1) (Line to Line) - Alternate	SUNIL	436D	Rated 250V, 0.22uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, VDE(40028050)
X-capacitor (C2) (Line to Line)	CARLI	MPX	Rated 250V, 0.1uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, VDE(4008520)
X-capacitor (C2) (Line to Line) - Alternate	ISKRA	KNB 1560 or 1562 or 1563	Rated 250V, 0.1uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, VDE(139106) or VDE(40030565)
X-capacitor (C2) (Line to Line) - Alternate	PILKOR	PCX2 335M or PCX2 337	Rated 250V, 0.1uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, FIMKO(FI 10463),NEMKO(P98100055),SEMKO(9740143/01)
X-capacitor (C2) (Line to Line) - Alternate	OKAYA	LE	Rated 250V, 0.1uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, SEMKO(SE/0142-1)
X-capacitor (C2) (Line to Line) - Alternate	SUNIL	436D	Rated 250V, 0.1uF. Marked with X1 or X2.	UL1414 IEC60384-14 EN132400	US, VDE(40028050)
Discharge resistor (R1, R2)	Interchangeable	Interchangeable	1/8W, 470 K ohm.	Tested in equipment	-, -
Linefilter (L1)	Bridgepower Corp or Wendeng Jeil	3025531	Core: Ferrite, Coils: Polyarethane wire 105°C. Bobbin: (QMFZ2) Bakelite, type PF2736@, V-0, 150°C. see for details.	Tested in equipment	-, -
Bridge diode (BD1)	Interchangeable	Interchangeable	Rated Min. 600 V, 0.8 A	Tested in equipment	-, -
Electrolytic Capacitor (C3)	Interchangeable	Interchangeable	47 uF, 400 V, min. 85 degree.	Tested in equipment	-, -
Main Transformer(T1)	Bridgepower Corp or Wendeng Jeil	3025494	Class A insulation; Coils: Polyarethane wire 105°C. TIW Cosmolink, Type TIW-M 130°C. or TIW Furukawa TEX-E 130°C. Bobbin: (QMFZ2) Bakelite, type PF2736@, V-0,	Tested in equipment	-, -

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			150°C. see Enclosure for details.		
Optical Isolator (U2)	Vishay Semiconductor	TCET1103G or TCET1103	Double protection optical isolator. Providing isolation voltage 5000 Vac	UL1577, VDE0884, EN60950	US, BSI (7402),CQC(090 01038077)
Optical isolator (U2) - Alternate	COSMO ELECTRONICS CORP	KP1010	Double protection optical isolator. Providing isolation voltage 5000 Vac	UL1577, VDE0884, EN60950	US, SEMKO(101643 3),FIMKO(22498 6)
Optical isolator (U2) - Alternate	SHARP CORP ELECTRONIC COMPONENTS GROUP	PC123	Double protection optical isolator. Providing isolation voltage 5000 Vac	UL1577, VDE0884, EN60950	US, SEMKO(9216212), NEMKO(135957)
Optical isolator (U2) - Alternate	KODENSHI KOREA	PC-17K	Double protection optical isolator. Providing isolation voltage 5000 Vac.	UL1577, VDE0884, EN60950	US, Semko(9805214/01-04)
Y-Capacitor (C17, C18, C19, C20)	NETRON TECH	AA	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414, IEC60384-14 EN132400	US, VDE(089754)
Y-Capacitor (C17, C18, C19, C20)_Alternate	NETRON TECH	AD	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414, IEC60384-14 EN132400	US, VDE(089753)
Y-Capacitor (C17, C18, C19, C20) - Alternate	DU SAN INDUSTRIAL CO LTD	NK	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414, IEC60384-14 EN132400	US, FIMKO(FI 197620 A1),NEMKO(P97 101988),SEMKO (0219069/01-04)
Y-Capacitor (C17, C18, C19, C20) - Alternate	DU SAN INDUSTRIAL CO LTD	NU	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414, IEC60384-14 EN132400	US, NEMKO(P97101 989),FIMKO(FI 197621 A1),SEMKO(021 9069/01-04)
Y-Capacitor (C17, C18, C19, C20) - Alternate	DONGIL	DA	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414 IEC60384-14 EN132400	US, FIMKO(FI 10228),NEMKO(P98100372),SE MKO(9807214/0

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					1-02)
Y-Capacitor (C17, C18, C19, C20) - Alternate	DONGIL	DS	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414 IEC60384-14 EN132400	US, FIMKO(FI 10228)
Y-Capacitor (C17, C18, C19, C20) - Alternate	SAMWHA CAPACITOR	SD	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414, IEC60384-14 EN132400	US, VDE(40015804)
Y-Capacitor (C17, C18, C19, C20) - Alternate	SAMWHA CAPACITOR	SC	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414, IEC60384-14 EN132400	US, VDE(40015805)
Y-Capacitor (C17, C18, C19, C20) - Alternate	SUCCESS	SE or SF	250Vmin, 2200 pF. Marked with Y1 or Y2.	UL1414 IEC60384-14 EN132400	US, VDE(40008996) or VDE(129809)
Bridging Capacitor (C20) (Class II only)	NETRON TECH	AD	250Vmin, 2200 pF. Marked with Y1.	UL1414, IEC60384-14 EN132400	US, VDE(089753)
Bridging Capacitor (C20) (Class II only) - Alternate	DU SAN INDUSTRIAL CO LTD	NK	250Vmin, 2200 pF. Marked with Y1.	UL1414, IEC60384-14 EN132400	US, FIMKO(FI 197620 A1),NEMKO(P97 101988),SEMKO (0219069/01-04)
Bridging Capacitor (C20) (Class II only) - Alternate	DONGIL	DA	250Vmin, 2200 pF. Marked with Y1.	UL1414 IEC60384-14 EN132400	US, FIMKO(FI 10228),NEMKO(P98100372),SE MKO(9807214/0 1-02)
Bridging Capacitor (C20) (Class II only) - Alternate	SAMWHA CAPACITOR	SD	250Vmin, 2200 pF. Marked with Y1.	UL1414, IEC60384-14 EN132400	US, VDE(40015804)
Bridging Capacitor (C20) (Class II only) - Alternate	SUCCESS	SE	250Vmin, 2200 pF. Marked with Y1.	UL1414 IEC60384-14 EN132400	US, VDE(40008996) or VDE(129809)
PWB	Interchangeable	Interchangeable	Min. V-1, min 105°C.	UL796	US, -
Bonding conductor (Class I only)	Interchangeable	Interchangeable	Mechanically clamped or secured on PWB from Appliance Inlet. Min 18 AWG, Green-and-Yellow Insulation.	UL758	US, -
Nameplate Label	Interchangeable	Interchangeable	Suitable for use on surface of Polycarbonate (PC) with max.	UL969	US, -

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			60 °C surface temperature.		
Bonding Glue	Interchangeable	Interchangeable	Min. V-2, min. 100 °C for additional secureness of internal conductor.	UL94	US, -
Heatsink	Interchangeable	Interchangeable	Basic insulated conductive part, wrapped by 3 turns polyester film tape, (OANZ2), rated 130 °C to separate from U1(pri.) and fixed by clip without mechanical stress. Overall size 50 by 20 by 2 mm thickness.	Tested in equipment	-, -
Extruded Insulating Tubing for C17, C18, C19, Choke coil of Bonding conductor	Interchangeable	Interchangeable	Rated 600 V, 125 °C, VW-1.	UL224	US, -
RJ-45 connector(J1, J2) not for TNV circuit	Interchangeable	Interchangeable	Plastic material(QMFZ2) min. V-2, RTI min. 60 °C.	Tested in equipment	-, -
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
The CBTL has verified the component information.					

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1.5.1	**TABLE: Opto Electronic Devices**			Pass
Manufacturer	Vishay Semiconductor	Cosmo Electronics Corp.	Sharp Corp.	
Type	TCET1103G or TCET1103	KP1010	PC123	
Separately tested	BSI (7402),CQC(09001038077)	SEMKO(1016433),FIMKO(224986)	SEMKO(9216212), NEMKO(135957)	
Bridging insulation	Reinforced	Reinforced	Reinforced	
External creepage distance	6.0mm	6.5mm	7.0mm	
Internal creepage distance	*	*	*	
Distance through insulation	0.4mm	0.4mm	0.4mm	
Tested under the following conditions	-	-	-	
Input	-	-	-	
Output	-	-	-	
Manufacturer	Kodenshi Korea			
Type	PC-17K			
Separately Tested	SEMKO(9805214/01-04)			
Bridging Insulation	Reinforced			
Exter Creepage Distance	7.0mm			
Inter Creepage Distance	*			
supplementary information:				
*; Thermal Cycling Test Conducted				

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1.6.2	**TABLE: Electrical data (in normal conditions)**					Pass
U (V)	I (A)	I rated (A)	P (W)	Fuse #	I fuse (A)	condition/status
Model: JPOE130A4800FK01	N/A	N/A	N/A	N/A	N/A	N/A
90Vac	0.425	N/A	24.5	F1	0.425	Max. normal load at 50Hz
100Vac	0.392	0.5	24.1	F1	0.392	Max. normal load at 50Hz
250Vac	0.179	0.5	23.8	F1	0.179	Max. normal load at 50Hz
265Vac	0.169	N/A	23.8	F1	0.169	Max. normal load at 50Hz
90Vac	0.427	N/A	24.4	F1	0.427	Max. normal load at 60Hz
100Vac	0.392	0.5	24.1	F1	0.392	Max. normal load at 60Hz
250Vac	0.179	0.5	23.8	F1	0.179	Max. normal load at 60Hz
265Vac	0.169	N/A	23.8	F1	0.169	Max. normal load at 60Hz
Model: JPOE130B4800FK01	N/A	N/A	N/A	N/A	N/A	N/A
90Vac	0.352	N/A	19.9	F1	0.352	Max. normal load at 50Hz
100Vac	0.319	0.5	19.6	F1	0.319	Max. normal load at 50Hz
250Vac	0.148	0.5	19.3	F1	0.148	Max. normal load at 50Hz
265Vac	0.141	N/A	19.4	F1	0.141	Max. normal load at 50Hz
90Vac	0.353	N/A	19.8	F1	0.353	Max. normal load at 60Hz
100Vac	0.319	0.5	19.6	F1	0.319	Max. normal load at 60Hz
250Vac	0.148	0.5	19.3	F1	0.148	Max. normal load at 60Hz
265Vac	0.141	N/A	19.4	F1	0.141	Max. normal load at 60Hz
Model: JPOE130B4800FK01(06CA55186)	N/A	N/A	N/A	N/A	N/A	N/A
90Vac	0.405	N/A	22.3	F1	0.405	Max. normal load at 50Hz
100Vac	0.364	0.5	21.9	F1	0.364	Max. normal load at 50Hz
250Vac	0.188	0.5	21.2	F1	0.188	Max. normal load at 50Hz

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265Vac	0.177	N/A	21.1	F1	0.177	Max. normal load at 50Hz
90Vac	0.407	N/A	22.2	F1	0.407	Max. normal load at 60Hz
100Vac	0.362	0.5	21.8	F1	0.362	Max. normal load at 60Hz
250Vac	0.186	0.5	21.2	F1	0.186	Max. normal load at 60Hz
265Vac	0.175	N/A	21.1	F1	0.175	Max. normal load at 60Hz
Model: JPOE130A4800FK01(08CA62248)	N/A	N/A	N/A	N/A	N/A	N/A
275Vac	0.158	N/A	22.9	F1	0.158	Max. normal load at 50Hz
275Vac	0.156	N/A	22.9	F1	0.156	Max. normal load at 60Hz
Model: JPOE130A4800FK01(08CA62248)	N/A	N/A	N/A	N/A	N/A	N/A
275Vac	0.146	N/A	20.8	F1	0.146	Max. normal load at 50Hz
275Vac	0.144	N/A	20.8	F1	0.144	Max. normal load at 60Hz

2.1.1.5 c) 1)	**TABLE: max. V, A, VA test**				Pass
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
48Vdc	Max 0.4A	47.4Vdc	0.35A	16.2VA	
supplementary information:					

2.1.1.5 c) 2)	**TABLE: stored energy**		N/A
Capacitance (µF)	Voltage U (V)	Energy E (J)	
supplementary information:			

2.2	**TABLE: evaluation of voltage limiting components in SELV circuits**			Pass
Component (measured between)	max. voltage (V) (normal operation)		Voltage limiting components	
	V peak	V d.c.		

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T1 pin 5,6 to T1 pin 8	258Vpk	-	
D4(-) to T1 pin 5,6	-	47.97	D4
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
D4 short	0		
supplementary information:			

2.5	**TABLE: Limited power sources**						Pass
Circuit output tested:			48Vdc output				
Note: Measured Uoc (V) with all load circuits disconnected:			See below				
Components	Sample No.	Uoc (V)	Isc (A)		VA		
			Meas.	Limit	Meas.	Limit	
Normal condition	1	48.0Vdc	0.76	8	36.33VA	100VA	
R13 open	1	21.2Vdc	0A	8	0	100VA	
R14 short	2	35.2Vdc	0A	8	0	100VA	
supplementary information:							
Sc=short circuit, Oc-Open circuit							

2.10.2	**TABLE: working voltage measurement**			Pass
Location	RMS voltage (V)	Peak voltage (V)	Comments	
Model: JPOE130A4800FK01	N/A	N/A	N/A	
T1, Pin2 to Pin 5,6	215	280	Measured Creepage;6.0, Measured Clearance;6.0	
T1, Pin2 to Pin 8	174	292	Measured Creepage;6.0, Measured Clearance;6.0	
Model: JPOE130B4800FK01	N/A	N/A	N/A	
T1, Pin2 to Pin 5,6	215	280	Measured Creepage;6.0, Measured Clearance;6.0	
T1, Pin2 to Pin 7	173	292	Measured Creepage;6.0, Measured Clearance;6.0	
U1, Primary to Secondary	152	196	Measured Creepage;6.0, Measured Clearance;6.0	
C17, Primary to F.G (Heatsink)	250	360	Measured Creepage;4.0, Measured Clearance;2.5	
supplementary information:				

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2.10.3 and 2.10.4	**TABLE: clearance and creepage distance measurements**					Pass
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
-	-	-	-	-	-	-
Functional:						
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)
-	-	-	-	-	-	-
Basic/supplementary:						
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)
Model: JPOE130B4800FK01						
C17, Primary to F.G (Heatsink)	360	250	2.0	2.2	2.5	4.0
Reinforced:						
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)
Model: JPOE130A4800FK01	-	-	-	-	-	-
T1, Pin2 to Pin 5,6	280	215	4.0	6.0	5.0	6.0
T1, Pin2 to Pin 8	292	174	4.0	6.0	5.0	6.0
Model: JPOE130B4800FK01	-	-	-	-	-	-
T1, Pin2 to Pin 5,6	280	215	4.0	6.0	5.0	6.0
T1, Pin2 to Pin 7	292	173	4.0	6.0	5.0	6.0
U1, Primary to Secondary	196	152	4.0	6.0	5.0	6.0
supplementary information:						
The following terminal is connected to earth: Secondary GND.						

2.10.5	**TABLE: Distance through insulation measurements**				Pass
Distance through insulation (DTI) at/of:	Upeak (V)	Urms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
*Optical Isolator(U2)	196 Vpk	152Vrms	3000 Vac	0.4	0.4
**Transformer Bobbin(T1)	292 Vpk	215Vrms	3000 Vac	0.4	0.4
supplementary information:					
* Certified by NCB(FIMKO or Equivalent) and UL ** Bobbin material: Phenolyc					

4.3.8	**TABLE: Batteries**								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available									
Is it possible to install the battery in a reverse polarity position?									
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Unintentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. specs.		Meas. current	Manuf. specs.	Meas. current	Manuf. specs.	Meas. current	Manuf. specs.

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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:		

4.3.8	**TABLE: Batteries**			N/A
Battery category (lithium, NiMh, NiCad, lithium ion, etc.)				
Manufacturer				
Type / model				
Voltage				
Capacity (mAh)				
Tested and Certified by (incl. Ref. No.)				
Circuit protection diagram (Refer to indicated supplement of Enclosure - Miscellaneous)				
MARKINGS AND INSTRUCTIONS (1.7.12, 1.7.15)				
Location of replaceable battery				
Language(s)				
Close to the battery				
In the servicing instructions				
In the operating instructions				
In the operating instructions				
supplementary information:				
Additional devices may be described in Enclosure - Miscellaneous				

4.5	**TABLE: thermal requirements**						Pass
	Supply voltage (V):	See below					---
	Ambient Tmin (°C):	N/A					---
	Ambient Tmax (°C):	See below					---

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Maximum measured temperature T of part/at:	T (°C) #1	T (°C) #2	T (°C) #3	T (°C) #4	T (°C) #5	Allowed Tmax (°C)
Model: JPOE130A4800FK01, Condition: 90 V, 60 Hz, Duration:2 hr 48 min	N/A	N/A	N/A	N/A	N/A	N/A
Inlet body	55.2	56.5	N/A	N/A	N/A	N/A
F1 body	63.2	64.5	N/A	N/A	N/A	105
L1 coil	93.6	94.9	N/A	N/A	N/A	105
T1 coil	83.4	84.7	N/A	N/A	N/A	90
L2 body	64.5	65.8	N/A	N/A	N/A	105
C14 body	64.3	65.6	N/A	N/A	N/A	85
C20 body	69.7	71	N/A	N/A	N/A	85
Enclosure (outside)	49.9	51.2	N/A	N/A	N/A	80
PWB adjacent to TH1	62.8	64.1	N/A	N/A	N/A	105
C3 body	76	77.3	N/A	N/A	N/A	85
T1 core	78.8	80.1	N/A	N/A	N/A	90
C13 body	73.1	74.4	N/A	N/A	N/A	85
J1 body	45.5	46.8	N/A	N/A	N/A	60
PWB adjacent to T1	63.3	64.6	N/A	N/A	N/A	105
Heatsink of U1	76.9	78.2	N/A	N/A	N/A	N/A
Enclosure (inside)	62	63.3	N/A	N/A	N/A	80
Ambient / Tma	28.7 / 30.0	N/A	N/A	N/A	N/A	N/A
Model: JPOE130A4800FK01, Condition: 265 V, 60 Hz, Duration:1 hr 32 min	N/A	N/A	N/A	N/A	N/A	N/A
Inlet body	51.7	52.7	N/A	N/A	N/A	N/A
F1 body	51.9	52.9	N/A	N/A	N/A	105
L1 coil	66.4	67.4	N/A	N/A	N/A	105
T1 coil	83	84	N/A	N/A	N/A	90
L2 body	64.3	65.3	N/A	N/A	N/A	90
C14 body	64.5	65.5	N/A	N/A	N/A	85
C20 body	70.1	71.1	N/A	N/A	N/A	85
Enclosure (outside)	50	51	N/A	N/A	N/A	80
PWB adjacent to TH1	47.1	48.1	N/A	N/A	N/A	105
C3 body	71.7	72.7	N/A	N/A	N/A	85
T1 core	80	81	N/A	N/A	N/A	90
C13 body	72.4	73.4	N/A	N/A	N/A	85
J1 body	45.6	46.6	N/A	N/A	N/A	60
PWB adjacent to T1	62.8	63.8	N/A	N/A	N/A	105
Heatsink of U1	77.3	78.3	N/A	N/A	N/A	N/A
Enclosure (inside)	61.9	62.9	N/A	N/A	N/A	80
Ambient / Tma	29.0 / 30.0	N/A	N/A	N/A	N/A	N/A
Model: JPOE130B4800FK01, Condition: 90 V, 60 Hz, Duration: 3hr	N/A	N/A	N/A	N/A	N/A	N/A
Inlet	50.6	53	N/A	N/A	N/A	N/A
PWB under TH1	55.5	57.9	N/A	N/A	N/A	105

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F1 body	54.3	56.7	N/A	N/A	N/A	105
C3 body	68.2	70.6	N/A	N/A	N/A	85
L1 coil	77.7	80.1	N/A	N/A	N/A	105
C6 body	70.5	72.9	N/A	N/A	N/A	85
T1 coil	74.1	76.5	N/A	N/A	N/A	90
T1 core	72.6	75	N/A	N/A	N/A	90
L2 body	69	71.4	N/A	N/A	N/A	90
C13 body	73.1	75.5	N/A	N/A	N/A	85
C14 body	72.2	74.6	N/A	N/A	N/A	85
J1 body	45.3	47.7	N/A	N/A	N/A	60
PWB near T1	71	73.4	N/A	N/A	N/A	105
C20 body	67.3	69.7	N/A	N/A	N/A	85
Heatsink (U1)	69.1	71.5	N/A	N/A	N/A	N/A
C2 body	74.1	76.5	N/A	N/A	N/A	85
U1 body	71.3	73.7	N/A	N/A	N/A	105
Enclosure (inside)	58.2	60.6	N/A	N/A	N/A	80
Enclosure (outside)	49.4	51.8	N/A	N/A	N/A	80
Ambient / Tma	27.6 / 30.0		N/A	N/A	N/A	N/A
Model: JPOE130B4800FK01, Condition: 265 V, 60 Hz, Duration: 2hr 18min	N/A	N/A	N/A	N/A	N/A	N/A
Inlet	50.6	52.9	N/A	N/A	N/A	N/A
PWB under TH1	55.5	57.8	N/A	N/A	N/A	105
F1 body	54.3	56.6	N/A	N/A	N/A	105
C3 body	68.2	70.5	N/A	N/A	N/A	85
L1 coil	77.7	80	N/A	N/A	N/A	105
C6 body	70.5	72.8	N/A	N/A	N/A	85
T1 coil	74.1	76.4	N/A	N/A	N/A	90
T1 core	72.6	74.9	N/A	N/A	N/A	90
L2 body	69	71.3	N/A	N/A	N/A	90
C13 body	73.1	75.4	N/A	N/A	N/A	85
C14 body	72.2	74.5	N/A	N/A	N/A	85
J1 body	45.3	47.6	N/A	N/A	N/A	60
PWB near T1	71	73.3	N/A	N/A	N/A	105
C20 body	67.3	69.6	N/A	N/A	N/A	85
Heatsink (U1)	69.1	71.4	N/A	N/A	N/A	N/A
C2 body	74.1	76.4	N/A	N/A	N/A	85
U1 body	71.3	73.6	N/A	N/A	N/A	105
Enclosure (inside)	58.2	60.5	N/A	N/A	N/A	80
Enclosure (outside)	49.4	51.7	N/A	N/A	N/A	80
Ambient / Tma	27.7 / 30.0	N/A	N/A	N/A	N/A	N/A
(06CA55186) Model: JPOE130B4800FK01, Condition: 90 V, 60 Hz, Duration: 4 hr		N/A	N/A	N/A	N/A	N/A
PWB under TH1	59.3	63.4	N/A	N/A	N/A	105
C3 body	70.3	74.4	N/A	N/A	N/A	85

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Clause	Requirement + Test	Result - Remark	Verdict

L1 coil	80.9	85	N/A	N/A	N/A	105
T1 coil	80.7	84.8	N/A	N/A	N/A	90
C13 body	80.2	84.3	N/A	N/A	N/A	85
C20 body	74.5	78.6	N/A	N/A	N/A	85
Heatsink of U1	75.5	79.6	N/A	N/A	N/A	N/A
C2 body	76.6	80.7	N/A	N/A	N/A	85
Enclosure(inside)	63.2	67.3	N/A	N/A	N/A	80
Enclosure(outside)	52.2	56.3	N/A	N/A	N/A	80
J1 body	48.8	52.9	N/A	N/A	N/A	60
Ambient / Tma	25.9 / 30.0		N/A	N/A	N/A	N/A
(06CA55186) Model: JPOE130B4800FK01, Condition: 265 V, 60 Hz, Duration: 4 hr	N/A	N/A	N/A	N/A	N/A	N/A
PWB under TH1	43	49.1	N/A	N/A	N/A	105
C3 body	62.3	68.4	N/A	N/A	N/A	85
L1 coil	57.9	64	N/A	N/A	N/A	105
T1 coil	78.3	84.4	N/A	N/A	N/A	90
C13 body	78.7	84.8	N/A	N/A	N/A	85
C20 body	69.7	75.8	N/A	N/A	N/A	85
Heatsink of U1	67	73.1	N/A	N/A	N/A	N/A
C2 body	65.4	71.5	N/A	N/A	N/A	85
Enclosure(inside)	61.8	67.9	N/A	N/A	N/A	80
Enclosure(outside)	51.4	57.5	N/A	N/A	N/A	80
J1 body	47.8	53.9	N/A	N/A	N/A	60
Ambient / Tma	23.9 / 30.0	N/A	N/A	N/A	N/A	N/A
(08CA62248) Model: JPOE130A4800FK01, Condition: 275 V, 60 Hz, Duration: 3hr 39 min	N/A	N/A	N/A	N/A	N/A	N/A
L1 coil	58.5	64.6	N/A	N/A	N/A	105
T1 coil	71.8	77.9	N/A	N/A	N/A	90
L2 body	56.1	62.2	N/A	N/A	N/A	105
C14 body	57	63.1	N/A	N/A	N/A	85
C20 body	57.9	64	N/A	N/A	N/A	85
Enclosure (outside)	44.5	50.6	N/A	N/A	N/A	80
PWB adjacent to TH1	44.2	50.3	N/A	N/A	N/A	105
C3 body	58.9	65	N/A	N/A	N/A	85
T1 core	66.1	72.2	N/A	N/A	N/A	90
C13 body	64.3	70.4	N/A	N/A	N/A	85
J1 body	43.8	49.9	N/A	N/A	N/A	60
PWB adjacent to T1	66.7	72.8	N/A	N/A	N/A	105
Heatsink of U1	63.2	69.3	N/A	N/A	N/A	N/A
Enclosure (inside)	50	56.1	N/A	N/A	N/A	80
Ambient / Tma	23.9 / 30.0	N/A	N/A	N/A	N/A	N/A
(08CA62248) Model: JPOE130B4800FK01, Condition: 275 V, 60 Hz, Duration: 3hr 39 min	N/A	N/A	N/A	N/A	N/A	N/A

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

PWB under TH1	42.8	49.1	N/A	N/A	N/A	105
F1 body	46	52.3	N/A	N/A	N/A	105
C3 body	59.5	65.8	N/A	N/A	N/A	85
L1 coil	53.8	60.1	N/A	N/A	N/A	105
C6 body	64	70.3	N/A	N/A	N/A	85
T1 coil	73.4	79.7	N/A	N/A	N/A	90
T1 core	69.1	75.4	N/A	N/A	N/A	90
L2 body	68.3	74.6	N/A	N/A	N/A	90
C13 body	68.2	74.5	N/A	N/A	N/A	85
C14 body	67.7	74	N/A	N/A	N/A	85
J1 body	53.4	59.7	N/A	N/A	N/A	60
PWB near T1	68.8	75.1	N/A	N/A	N/A	105
C20 body	61.4	67.7	N/A	N/A	N/A	85
Heatsink (U1)	61.1	67.4	N/A	N/A	N/A	N/A
C2 body	61.8	68.1	N/A	N/A	N/A	85
U1 body	66.1	72.4	N/A	N/A	N/A	105
Enclosure (inside)	53	59.3	N/A	N/A	N/A	80
Enclosure (outside)	44.5	50.8	N/A	N/A	N/A	80
Ambient / Tma	23.7 / 30.0	N/A	N/A	N/A	N/A	N/A

temperature T of winding:	t1 (°C)	R1 (Ohm)	t2 (°C)	R2 (ohm)	T (°C)	Allowed Tmax (°C)	Insulation class
-	-	-	-	-	-	-	-

supplementary information:

T < (Tmax + Tamb - Tma), Tma: 30 degree C, T1: Class A Insulation.

4.5.5	**TABLE: Ball pressure test of thermoplastic parts**		N/A
	allowed impression diameter (mm) :		---
part		test temperature (°C)	impression diameter (mm)

supplementary information:

4.7	**TABLE: Resistance to fire**				Pass
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Enclosure	Sabic Innovative Plastics	940(f1)	Min. 2.0	V-0	
Enclosure - alternate	Samsung SDI	HN-1064+	Min. 2.0	V-0	

supplementary information:

UL Recognized component used, see appended table 1.5.1.

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

5.1	**TABLE: touch current measurement**			Pass
Measured between		Measured (mA)	Limit (mA)	Comments/conditions
Secondary output		0.08mA	0.25mA	265Vac, 60Hz
supplementary information:				

5.2	**TABLE: Electric strength tests, impulse tests and voltage surge tests**			Pass
Test voltage applied between		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
-		-	-	-
Functional:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
-		-	-	-
Basic/supplementary:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Primary to Internal Heatsink		AC	1,500 ac	No
Pri. winding and Core of T1		AC	1,500 ac	No
SELV winding and Core of T1		AC	1,500 ac	No
Reinforced:				
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Primary to Secondary		AC	3,000 ac	No
Primary to Enclosure (Metal Foil)		AC	3,000 ac	No
Primary to Secondary after Humidity Test		AC	3,000 ac	No
Primary to Enclosure (Metal Foil) after Humidity Test		AC	3,000 ac	No
One layer of Insulation Tape		AC	3,000 ac	No
One layer of insulation of T1		AC	3,000 ac	No
Pri. winding and SELV winding of T1		AC	3,000 ac	No
supplementary information:				
Tests were conducted with all models. Also complied with humidity test.				

5.3	**TABLE: Fault conditions tests**		Pass
	Ambient temperature (°C)	see results	---
	Power source for EUT: Manufacturer, model/type, output rating	JPOE130A4800FK01, JPOE130B4800FK01	---

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

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
1, BD1(+) to (~)	Short	265V	1 sec	F1	1	CD(F1, BD1), NC, NT, NB, Fuse type: SR-5 by save fuse
2, BD1(+) to (~)	Short	265V	1 sec	F1	1	CD(F1, BD1), NC, NT, NB, Fuse type: 382 by Wickman
3, BD1(-) to (~)	Short	265V	1 sec	F1	1	CD(F1, BD1), NC, NT, NB, Fuse type: SR-5 by save fuse
4, BD1(-) to (~)	Short	265V	1 sec	F1	1	CD(F1, BD1), NC, NT, NB, Fuse type: 382 by Wickman
5, C3	Short	265V	1 sec	F1	1	CD(F1, BD1), NC, NT, NB,. Fuse type: SR-5 by save fuse
6, C3	Short	265V	1 sec	F1	1	CD(F1, BD1), NC, NT, NB, Fuse type: 382 by Wickman
7, U1 pin2 to pin4	Short	265V	1 sec	F1	1	CD(F1, BD1, ZD2), NC, NT, NB, Fuse type: SR-5 by save fuse
8, U1 pin2 to pin4	Short	265V	1 sec	F1	1	CD(F1, BD1, ZD2), NC, NT, NB, Fuse type: 382 by Wickman
9, D1(+) to (-)	Short	265V	10 min	F1	1	IP FI max 0.162A, NC, NT, NB
10, C6(+) to (-)	Short	265V	10 min	F1	1	IP FI max 0.033A, NC, NT, NB
11, U2 pin3 to pin4	Short	265V	10 min	F1	1	IP FI max 0.033A, NC, NT, NB
12, C14(+) to (-)	Short	265V	10 min	F1	1	IP FI max 0.038, NC, NT, NB
13, U2 pin1 to pin2	Short	265V	10 min	F1	1	IP FI max 0.054A, NC, NT, NB
14, R13	Open	265V	10 min	F1	1	IP FI max 0.056A, NC, NT, NB
15, R14	Open	265V	10 min	F1	1	IP FI max 0.056A, NC, NT, NB
16, D4(K) to GND for JPOE130A4800FK01	Overload (T1)	265V	6 hr 15 min	F1	1	IP at output 1.0 A load Max. T1 coil: 105 degree C, Tamb. 28.4 degree C, NC, NT, NB
17, D4(K) to GND for JPOE130B4800FK01	Overload (T1)	265V	3 hr 3 min	F1	1	IP at output 0.325 A load Max. T1 coil: 78 degree C, Tamb. 28.4 degree C, NC, NT, NB
18, D4 for JPOE130A4800FK01	Short	250 V	N/A	F1	1	SELV Reliability Test, 0 Vpk between D4(K) to GND
19, D4 for JPOE130B4800FK01	Short	250 V	N/A	F1	1	SELV Reliability Test, 0 Vpk between D4(K) to GND

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

supplementary information:
Comments Key: IP - Internal protection operated, CT - Constant temperatures were obtained, TW - CD - Components damaged, NB - No indication of dielectric breakdown, YB - Dielectric breakdown, NC - Cheese cloth remained intact, YC - Cheesecloth charred or flamed, NT - Tissue paper remained intact, YT - Tissue paper charred or flamed, FI - Final Input Current, If not specified in component No., all tests were conducted with model JPOE130A4800FK01.

C.2	**TABLE: transformers**							Pass
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)		Required distance thr. insul. (2.10.5)
T1(JPOE130A4800FK01)	Reinforced	280	215	3000	4.0	5.0		0.4mm
T1(JPOE130B4800FK01)	Reinforced	292	215	3000	4.0	5.0		0.4mm
Loc.	Tested insulation				Test voltage / V	Measured clearance / mm	Measured creepage dist. / mm	Measured distance thr. insul. / mm; number of layers
T1	Reinforced				3000	6.0	6.0	min. 1layer
Transformer type number				Enclosure - Miscellaneous ID				
3025494				7-03				
supplementary information:								
complied with humidity test								

Enclosure

National Differences

Austria**
Belgium**
Bulgaria**
Czech Republic**
Denmark
Finland
France**
Germany
Greece**
Group
Hungary**
Ireland
Israel
Italy**
Japan
Korea
Netherlands**
Norway
Poland**
Portugal**
Romania**
Singapore*
Slovakia**
Slovenia**
Spain
Sweden
Switzerland
Ukraine*
United Kingdom

* No National Differences Declared
** Only Group Differences

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
Denmark - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
1.2.4.1	In Denmark, certain types of Class I appliances (see sub-clause 3.2.1.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket-outlets.		N/A
1.7.2.1	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: : “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”		N/A
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
1.7.5	For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a. (Heavy Current Regulations, Section 107-2-D1)		Pass
3.2.1.1	Supply cord 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 contact 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		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	Regulations, Section 107-2-D1 or EN 60309-2.		

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
Finland - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
1.5.7.1	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
1.5.9.4	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	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 shall be: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"	Operating instructions and warnings are written in an accepted language of the certain country.	N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.3	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - STATIONARY PLUGGABLE EQUIPMENT TYPE A that: (1) is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and (3) 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	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		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	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. Alternatively for components, 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 an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994 (EN 60384-14:2005), subclass Y2. A capacitor classified Y3 according to EN 132400 [EN 60384-14:2005], may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400 [EN 60384-14], 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 [EN 60384-14]; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 [EN 60384-14], in the sequence of tests as described in EN 132400 [EN 60384-14].		
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication center, 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.		
7.2	Requirements according to this annex 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
Germany - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
1.7.2.1	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

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
Group - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Group Differences also includes the requirements in A11:2009 and A12:2011		Pass
1.3	A12:2011 - In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		Pass
1.5.1	Add the following NOTE Z1: The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		N/A
1.7.2.1	Delete NOTE Z1 and the addition for Portable Sound System Add the following Zx clauses and annex to the existing standard and amendments		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.		Pass
2.7.2	Void		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
3.2.3	Delete the NOTE and conduit sizes in parentheses in Table 3A		N/A
3.2.5.1	Add the following Note: NOTE Z1 The harmonised code designations corresponding to the IEC cord types are given in Annex ZD. In Table 3B, replace the first four lines by the following: 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 In the conditions applicable to table 3B, delete the words "in some countries" in condition a). In Note 1, applicable Table 3B, to delete the second sentence.		N/A
3.3.4	In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: "Over 10 up to and including 16 1.5 to 2.5 1.5 to by 4" Delete the fifth line: conductor sizes for 13 to 16A.		N/A
4.3.13.6	Replace the existing NOTE by the following: 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 and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation). Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
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
Zx	Protection against excessive sound pressure from personal music players		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
Zx.1	General - This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: - is designed to allow the user to listen to recorded or broadcast sound or video; and - primarily uses headphones or earphones that can be worn in or on or around the ears; and - allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: - while the personal music player is connected to an external amplifier; or - while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: - hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. - analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		
Zx.2	Equipment Requirements - No safety provision is required for equipment that complies with the following: - equipment provided as a package (personal music player with its listening device), where the acoustic output LAeq,T is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and - a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level LAeq,T is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term LAeq,T) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term LAeq,T) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		
Zx.3	Warning - The warning shall be placed on the		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	equipment, or on the packaging, or in the instruction manual and shall consist of the following: - the symbol of Figure 1 (IEC 60417-6044) with a minimum height of 5 mm; and - the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.” Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level		
Zx.4	Requirements for Listening devices (headphones and earphones)		N/A
Zx.4.1	Wired listening devices with analogue input With 94 dBA sound pressure output LAeq,T, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A
Zx.4.2	Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
Zx.4.3	Wireless listening devices In wireless mode: - with any playing and transmitting device playing the fixed programme simulation noise described in		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	EN 50332-1; and - respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and - with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.)set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		
Zx.5	Measurement Methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A

Ireland - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Ireland has national differences declared for 60950-1:2005, Am 1:2009 (below).		N/A
3.2.1.1	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
4.3.6	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 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict

Israel - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Israel has national differences declared for 60950-1:2005, Am 1:2009 (below).		N/A
1.6.1	Add Note: This clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.		N/A
1.7	Add: Sub-clause 1.7.201 shall be added at the beginning of the clause.		N/A
1.7.2.1	Add: All the instructions and warnings related to safety shall also be written in the Hebrew language.		N/A
1.7.201	The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition, the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language. The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed. 1) name of the apparatus and its commercial designation; 2) Manufacturer's name and address. If the apparatus is imported, the importer's name and address; 3) Manufacturer's registered trademark,if any; 4) Name of the model and serial number, if any; 5) country of manufacturer		N/A
2.9.4	Add: Seven means of protection against electrocution are permitted according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991. The seven are 1) TN-S or TN-C-S 2) TT 3) IT 4) Isolated Transformer 5) Safety extra low voltage (SELV or ELV) 6) Residual current circuit breaker (30 ma = 1delta) 7) reinforced insulation; double insulation (Class II)		N/A
2.201	Add: Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	the apparatus with the relevant requirements specified in the appropriate part of the standard series SI 961, shall be checked. The apparatus shall meet the requirements in the appropriate part of the standard series SI 961. If there are components of the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this standard.		
3.2.1.1	Add after the note: The feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.		N/A
3.2.1.2	Add: At the end of the first paragraph add the following note: At the time of issue of the standard, there is no Israel Standard for connection accessories to d.c.		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
Japan - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	NCBs are issuing and recognizing to 60950-1:2005, Am 1:2009. Japan has declared differences to 60950-1:2001 (see below.)		N/A
1.2.4.1	Addition of the following note: Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		N/A
1.2.4.3A	Addition of new clause Class 0I Equipment: Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation.		N/A
1.3.2	Add after the first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.		N/A
1.5.1	Replace the first paragraph with: Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1.		
1.5.1	Replace note 1 with: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		N/A
1.5.2	Replace the first sentence in the first dashed paragraph with the following: A component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating.		N/A
1.5.2	Add the following note after the first dashed paragraph: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A.		N/A
1.5.2	Replace first sentence in the third dashed paragraph with the following: Where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.		N/A
1.5.6	In this sub-clause, add “JIS C 5101-14:1998 or” before the reference number, IEC 60384-14:1993.		N/A
1.5.7.2	In this sub-clause, add “JIS C 5101-14:1998 or” before the reference number, IEC 60384-14:1993.		N/A
1.5.8	In the first paragraph, add “JIS C 5101-14:1998 or” before the reference number, IEC 60384-14:1993.		N/A
1.7.1	Replace fifth dashed paragraph with the following:		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	manufacturer's or responsible company's name or trade-mark or identification mark		
1.7.5	In the second paragraph, add "or JIS C 8303:2007" after the reference number, IEC/TR 60083:1997".		N/A
1.7.5A	Add the following new clause after 1.7.5: Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. " Use only designated cord set attached in this equipment"		N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.		N/A
1.7.17A	Add the following new clause. after 1.7.17: Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: "Provide an earthing connection" Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains."		N/A
2.1.1.1	In item b) of this sub-clause, replace "IEC 60083" with "JIS C 8303:2007 or Article 1 of the Ministerial Ordinance (No. 85:1962)"		N/A
2.6.3.2	Add the following after 1st paragraph: This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.		N/A
2.6.4.2	Replace 1st paragraph with the following: Equipment required to have protective earthing shall have a main protective earthing terminal.		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.		
2.6.5.4	Replace 1st sentence with the following: Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:		N/A
2.6.5.8A	Add the following new clause. after 2.6.5.8A: Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		N/A
2.10.3.1	In this sub-clause, replace IEC 60664-1 with JIS C 0664:2003.		N/A
2.10.3.2	In the second paragraph, replace IEC 60664-1 with JIS C 0664:2003.		N/A
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.		N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.		N/A
3.2.5.1	Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.		N/A
3.2.5.1	Delete 1) in Table 3B.		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		N/A
4.3.13.5	Replace the first paragraph with the following: Except as permitted below, equipment shall be classified and labelled according to JIS C 6802:2005, and JIS C 6803:2006 or IEC 60825-2:2000, as applicable. Replace IEC 60825-1 in the second and the last paragraph with JIS C 6802:2005.		N/A
4.5	Add the following NOTE to Table 4B, 3): NOTE: In case no data for the material is available, Appendix 4, 1. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances (Commerce and Distribution Policy Group No. 3:2008/06/19) may apply.		N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.		N/A
5.1.6	Replace Table 5A as shown in J60950-1.		N/A
6	Replace IEC 60664-1 in NOTE 4 with JIS C 0664.		N/A
7	Replace IEC 60664-1 in NOTE 3 with JIS C 0664:2003.		N/A
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	apply: − the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation.		
JA	Add new Annex JA: Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.		N/A
JA.1	Add: Markings and instructions The symbol (JIS S 0101:2000, 6.2.4) (exclamation point in yellow triangle) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.		N/A
JA.2	Add: Inadvertent Reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
JA.3	Add: Disconnection from the mains supply: Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.		N/A
JA.3	Add: If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection		N/A
JA.4	Add: Protection against hazardous moving parts: Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended . Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe. Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.		
W.1	Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.		N/A

Korea - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Korea has national differences declared for 60950-1:2005, Am 1:2009 (below).		N/A
1.5.101	Plugs for the connection of the apparatus to the mains supply shall comply with the Korean requirement (KSC 8305)	Appliance inlet provided for models; a detachable power supply cord in compliance with national requirements will be provided by the local distributor.	N/A
8	EMC - The apparatus shall comply with the relevant CISPR standards	This test report covers safety evaluation only according to IEC60950-1; EMC testing to be covered by separate test report.	N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict

Norway - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Norway has national differences declared for 60950-1:2005, Am 1:2009 (below).		Pass
1.2.13.14	For requirements see 1.7.2.1 and 7.3.		N/A
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. 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	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).	Rated min. 250 Vac	Pass
1.5.9.4	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	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 shall be: "Apparatet må tilkoples jordet stikkontakt"	Operating instructions and warnings are written in an accepted language of the certain country.	N/A
1.7.2.1	In Norway, 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		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
	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."		
2.2.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.3.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - STATIONARY PLUGGABLE EQUIPMENT TYPE A that: (1) is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and (3) 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

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
6.1.2.1	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. Alternatively for components, 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 an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 123400 [EN 60384-14:2005], may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400 [EN 60384-14], 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 [EN 60384-14]; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 [EN 60384-14], in the sequence of tests as described in EN 132400 [EN 60384-14.]		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and 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	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	Refer to EN 60728-11:2005 for installation conditions		N/A
7.3	Requirements according to this annex 1.2.13.14 and 1.7.2.1 apply.		N/A

Spain - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Spain has national differences declared for 60950-1:2005, Am 1:2009 (below).		N/A
3.2.1.1	Supply cords of single-phase equipment having a rated current not exceeding 10A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2.5A shall be provided with a plug according to UNE-EN 50075:1993. CLASS 1 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

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
Sweden - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
1.2.13.14	For requirements see 1.7.2.1 and 7.3.		N/A
1.5.1	(Ordinance (1990:944)) Add NOTE: Switches containing mercury are not permitted.		N/A
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.9.4	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	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 shall be:"Apparaten skall anslutas till jordat uttag"	Operating instructions and warnings are written in an accepted language of the certain country.	N/A
1.7.2.1	In 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		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	(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 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."		
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: STATIONARY PLUGGABLE EQUIPMENT TYPE A that: (1) is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and (3) is provided with instructions for the installation of that conductor by a SERVICE PERSON; - STATIONARY PLUGGABLE TYPE B - STATIONARY PERMANENTLY CONNECTED EQUIPMENT		N/A
6.1.2.1	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. Alternatively for components, there is no distance		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	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 an optocoupler complying with 2.10.5.4 b). 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 [EN 60384-14:2005], may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400 [EN 60384-14], 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 [EN 60384-14]; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400 [EN 60384-14], in the sequence of tests as described in EN 132400 [EN 60384-14.]		
6.1.2.2	The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and 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	Requirements according to this annex, 6.1.2.1 and		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		
7.3	Requirements according to this annex 1.2.13.14 and 1.7.2.1 apply.		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict

Switzerland - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
General	Includes update from 60950-1:2005, AC:2011		N/A
1.5.1	Ordinance on environmentally hazardous substances SR 814.81, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury. Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.13	Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15, Batteries - Annex 2.15 of SR 814.81 applies for batteries containing cadmium and mercury. Note: Ordinance relating to environmentally hazardous substances, SR 814.013 of 1986-06-09 is no longer in force and superseded by SR 814.81 of 2009-02-01 (ChemRRV).		N/A
3.2.1.1	Supply cords of portable electrical appliances having a rated current not exceeding 10 A shall be provided with a plug complying with IEC 60884-1 (3rd Ed.) + Amd. 1, SEV 1011 and one of the following dimension sheets: - SEV 6533-2:2009, Plug type 11, L+N, 250 V, 10 A - SEV 6534-2:2009, Plug type 12, L+N+PE, 250 V, 10 A - SEV 6532-2:2009, Plug type 15, 3P+N+PE, 250/400 V, 10 A Supply cords of portable electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with IEC 60884-1 (3rd Ed.) + Amd. 1, SEV 1011 and one of the following dimension sheets: - SEV 5933-2:2009, Plug type 21, L+N, 250 V, 16 A - SEV 5934-2:2009, Plug type 23, L+N+PE, 250 V, 16 A - SEV 5932-2:2009, Plug type 25, 3P+N+PE, 230/400 V, 16 A NOTE: 16 A plugs are not often used in Swiss domestic installation systems.		N/A
3.2.4	Requirements according to this annex 3.2.1.1		N/A

IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
	apply.		

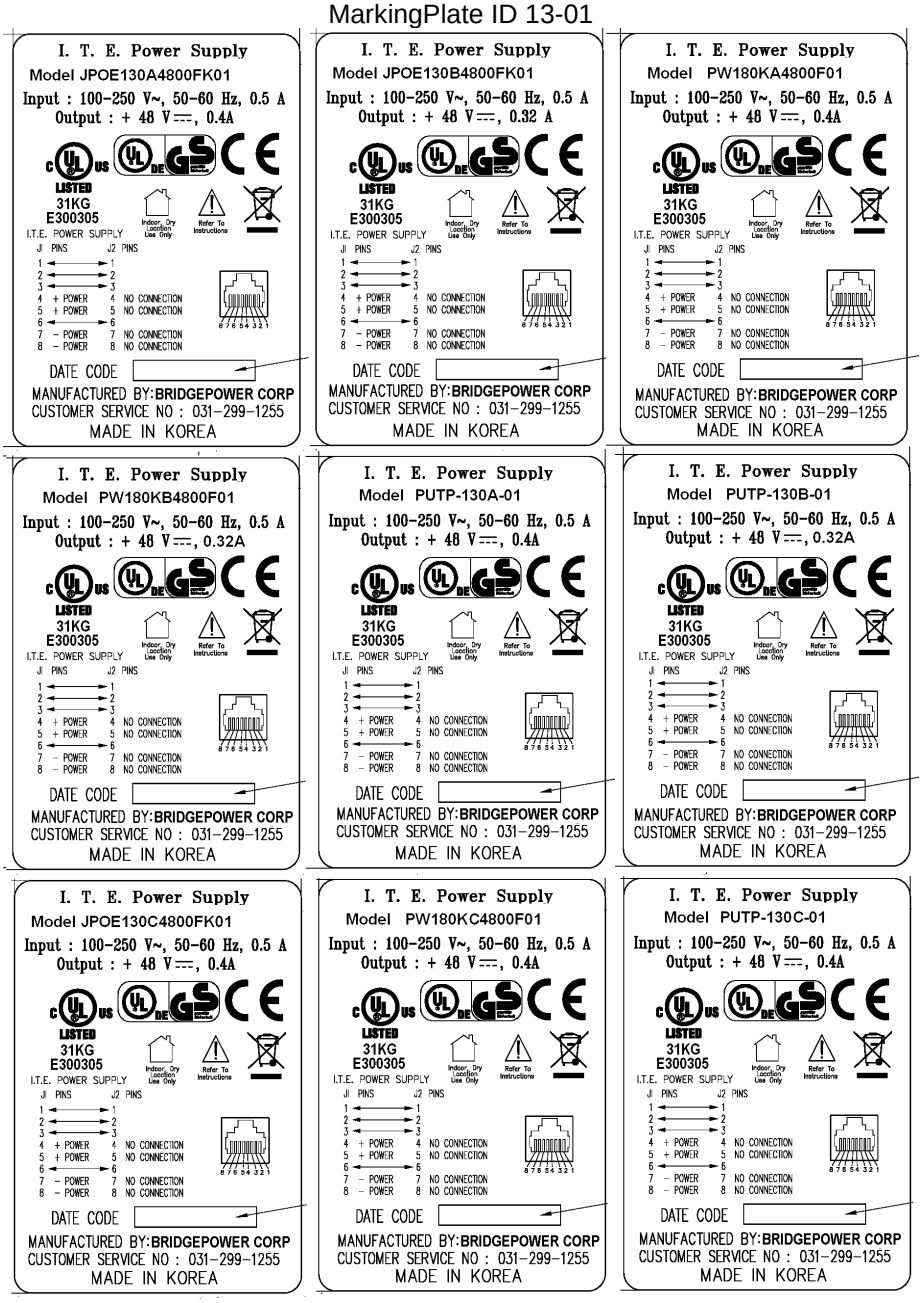
IEC 60950-1:2005			
SubClause	Difference + Test	Result - Remark	Verdict
United Kingdom - Differences to IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013			
2.6.3.3	The current rating of the circuit shall be taken as 13 A, not 16 A.	Considered.	Pass
2.7.1	To protect against excessive currents and 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.		Pass
3.2.1.1	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 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Appliance inlet provided for models; a detachable power supply cord in compliance with national requirements will be provided by the local distributor.	Pass
3.2.5.1	A power supply cord with conductor of 1.25 mm² is allowed for equipment with a rated current over 10A and up to and including 13A.	Appliance inlet provided for models; a detachable power supply cord in compliance with national requirements will be provided by the local distributor.	N/A
3.3.4	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	The torque test is performed using a socket outlet complying with BS 1363 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, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125°C.		N/A
4.3.6	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

Enclosures

Type	Supplement Id	Description
Photographs	3-01	External view
Photographs	3-02	Internal view_JPOE130A4800FK01
Photographs	3-03	Internal view_JPOE130B4800FK01
Photographs	3-04	External view for Class II
Photographs	3-05	Internal view for Class II
Photographs	3-06	Internal view_JPOE130C4800FK01
Diagrams	4-01	Circuit_JPOE130A4800FK01
Diagrams	4-02	Circuit_JPOE130B4800FK01
Diagrams	4-03	Circuit_JPOE130A4800NK01
Diagrams	4-04	Circuit_JPOE130B4800NK01
Diagrams	4-05	Circuit_JPOE130C4800FK01
Schematics + PWB	5-01	PWB Layout_common
Schematics + PWB	5-02	PWB sub board for JPOE130B4800FK01
Schematics + PWB	5-03	PBW layout_JPOE130C
Miscellaneous	7-02	Linefilter_L1
Miscellaneous	7-03	Transformer_T1
Miscellaneous	7-05	National Differences - China and Japan and Australia
Miscellaneous	7-07	Manufacturer Declaration
Miscellaneous	7-08	Manufacturer Declaration
Marking Plate	13-01	Marking Plate

Enclosures

MarkingPlate ID 13-01



Enclosures

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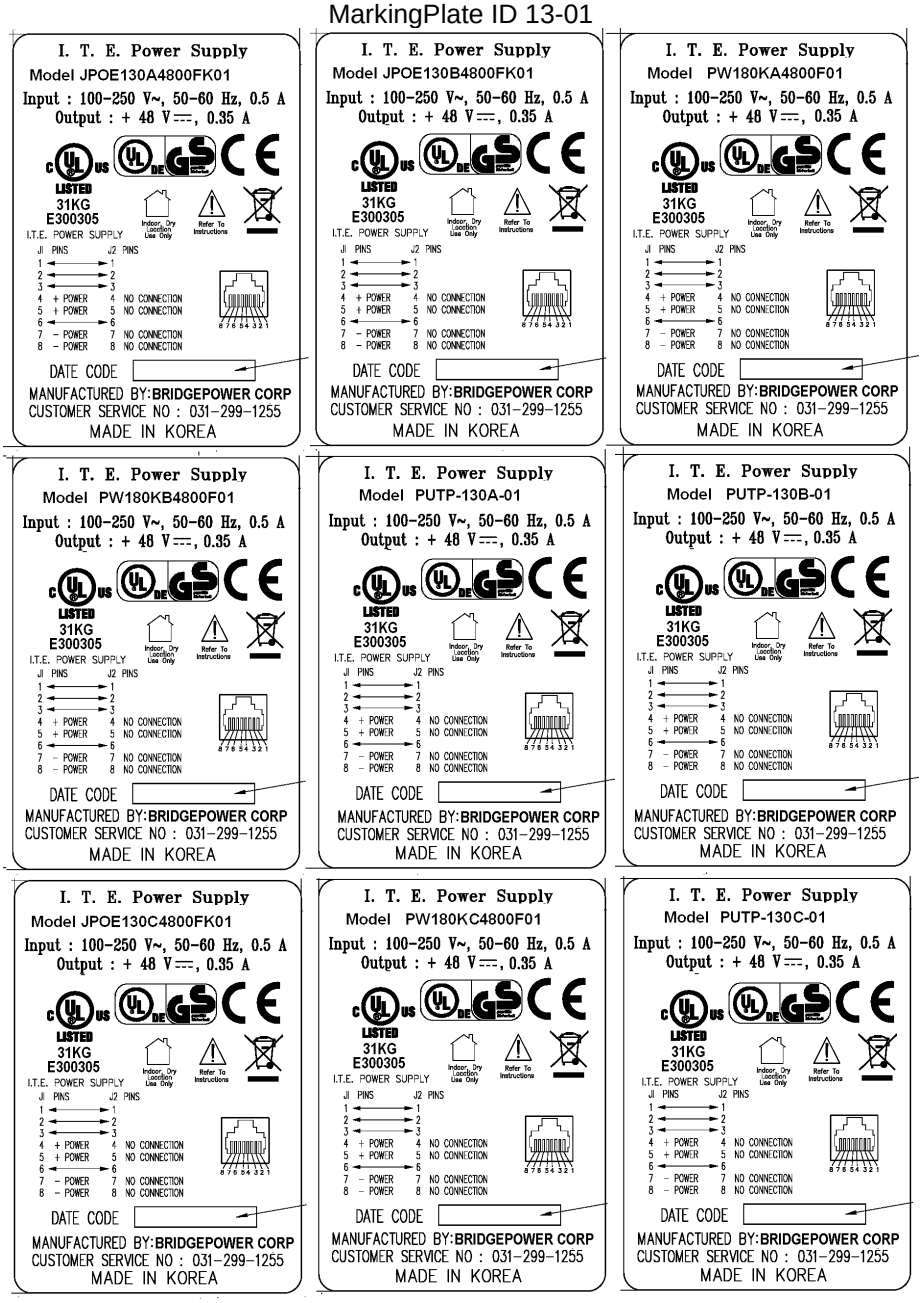

Enclosures

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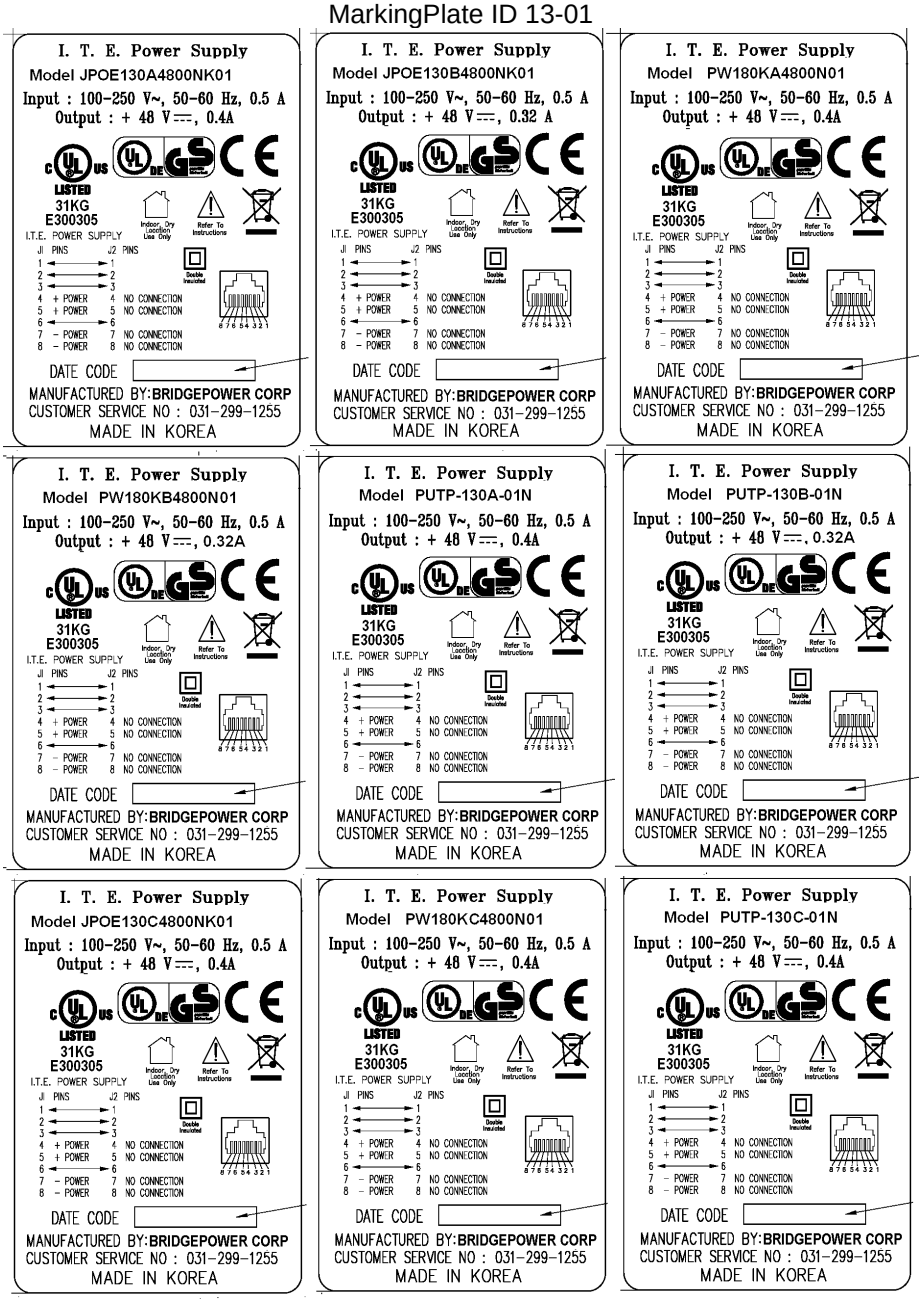

Enclosures

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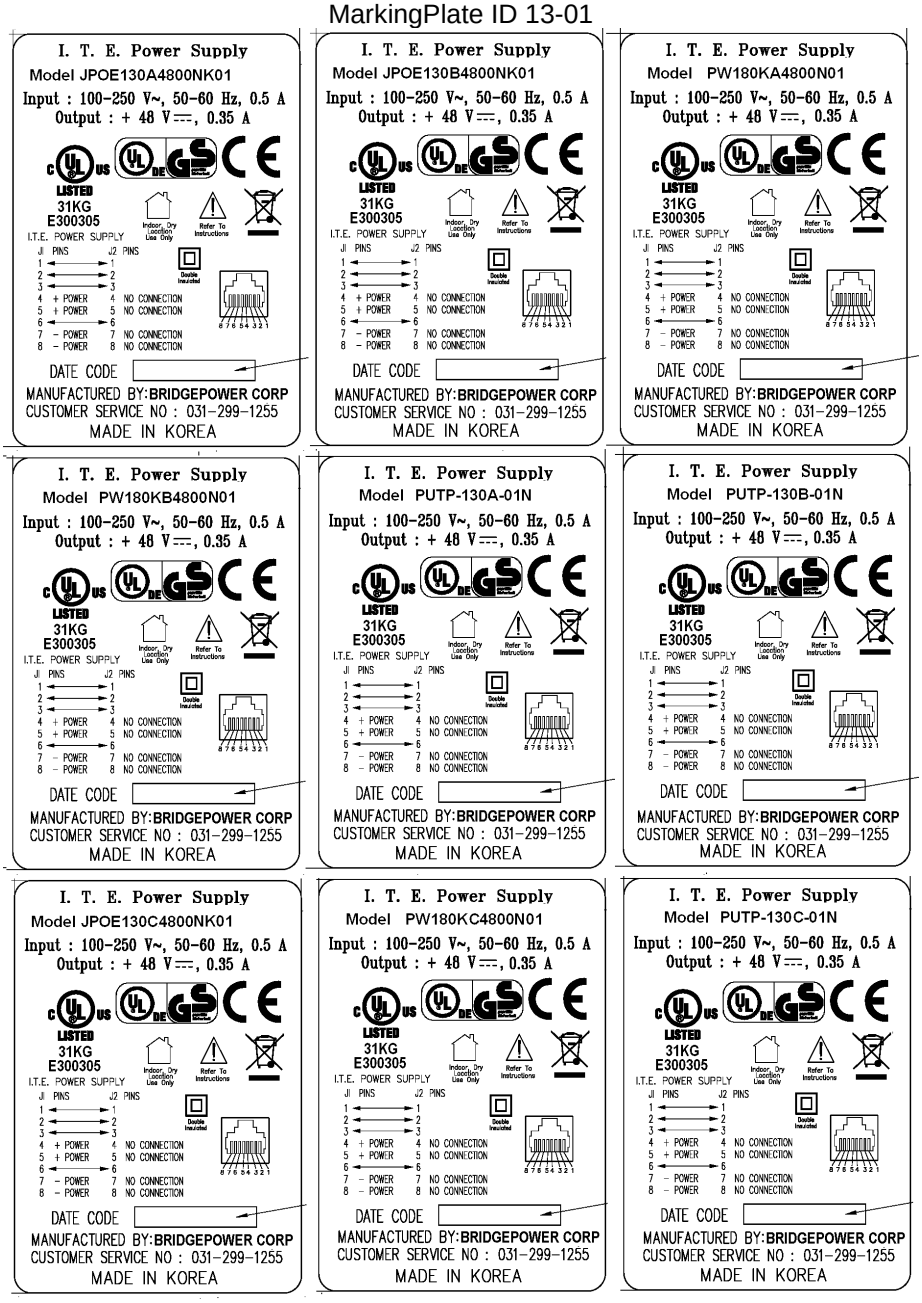
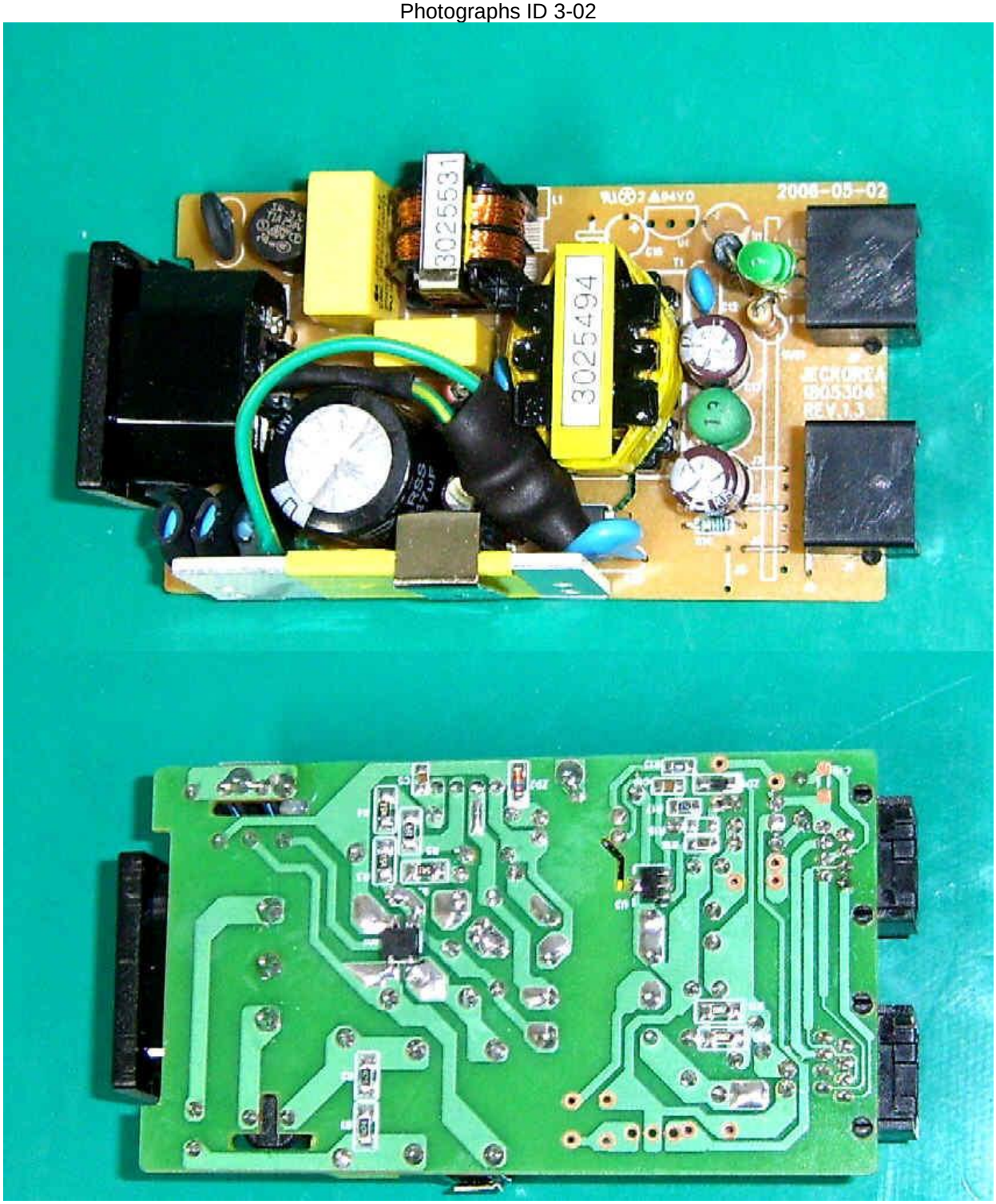
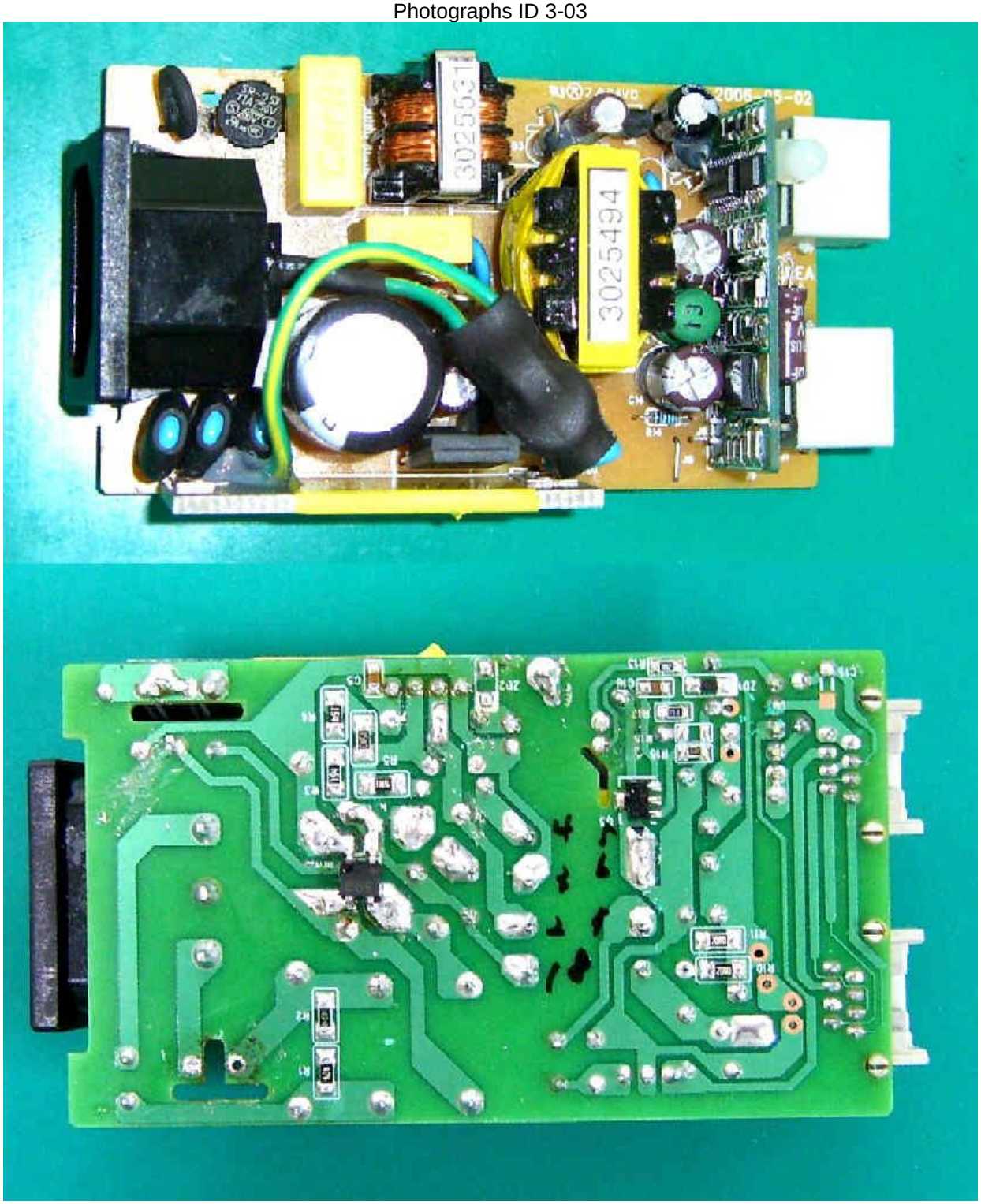


Photographs ID 3-01

Photographs ID 3-02

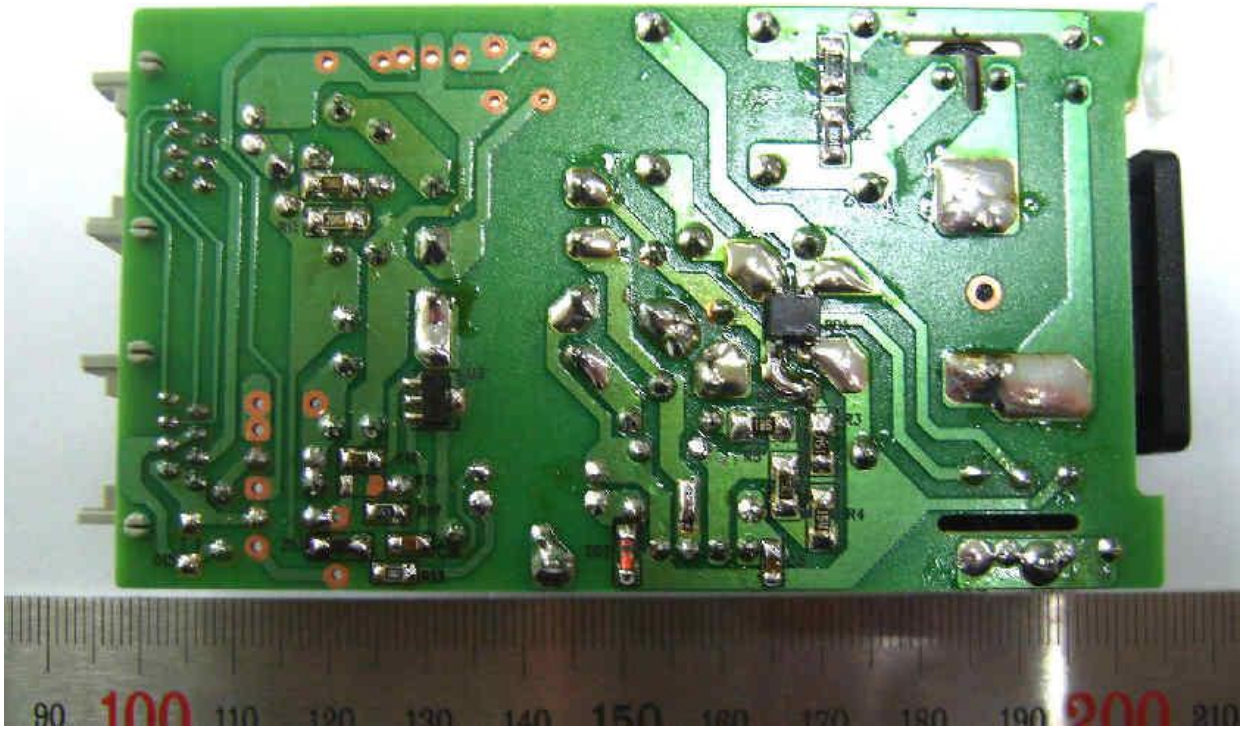


Photographs ID 3-03



Photographs ID 3-04

Photographs ID 3-05



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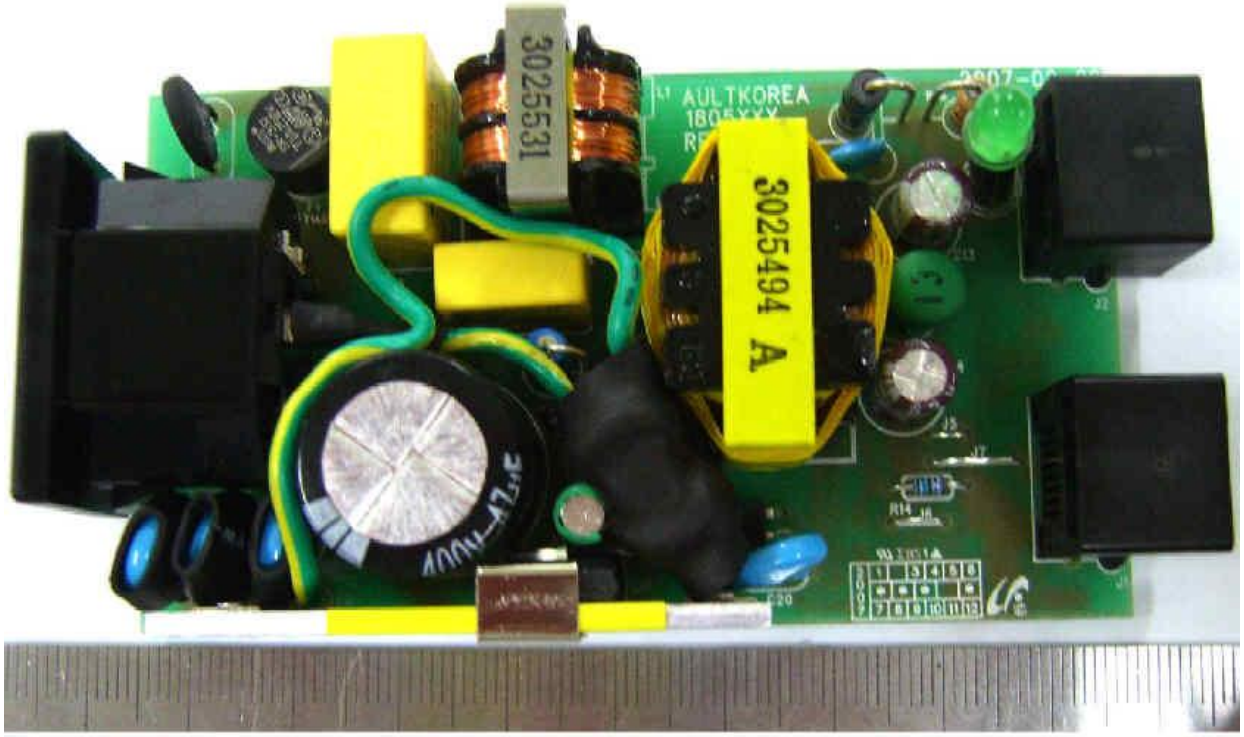
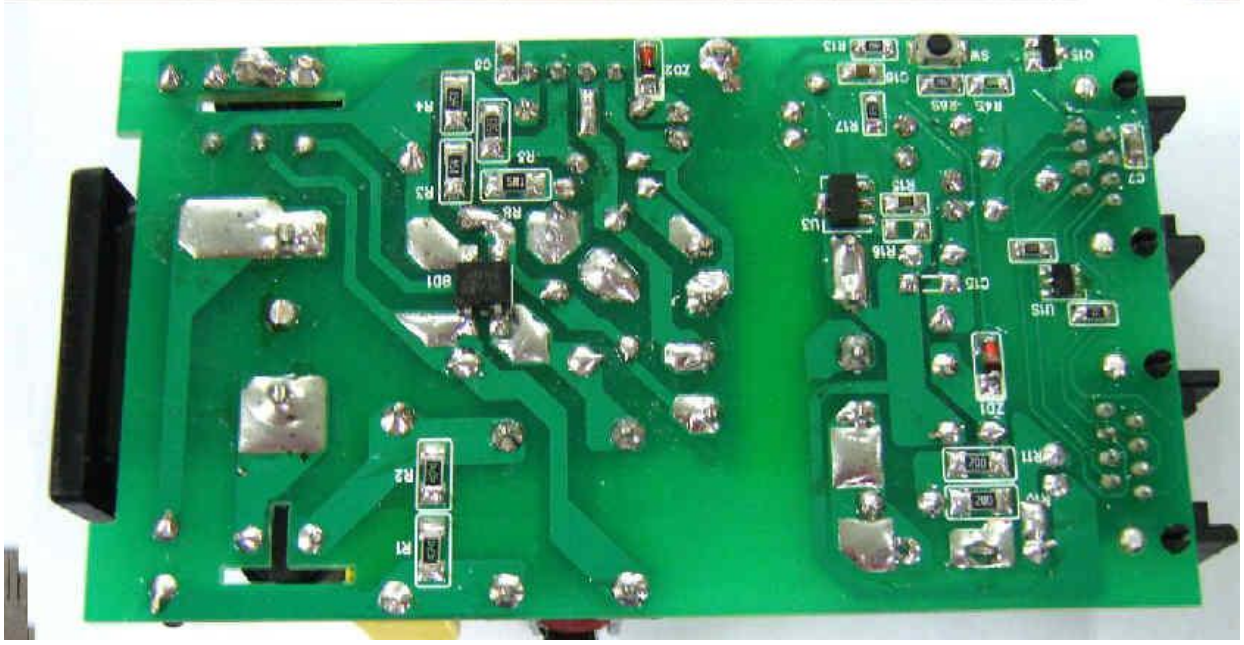
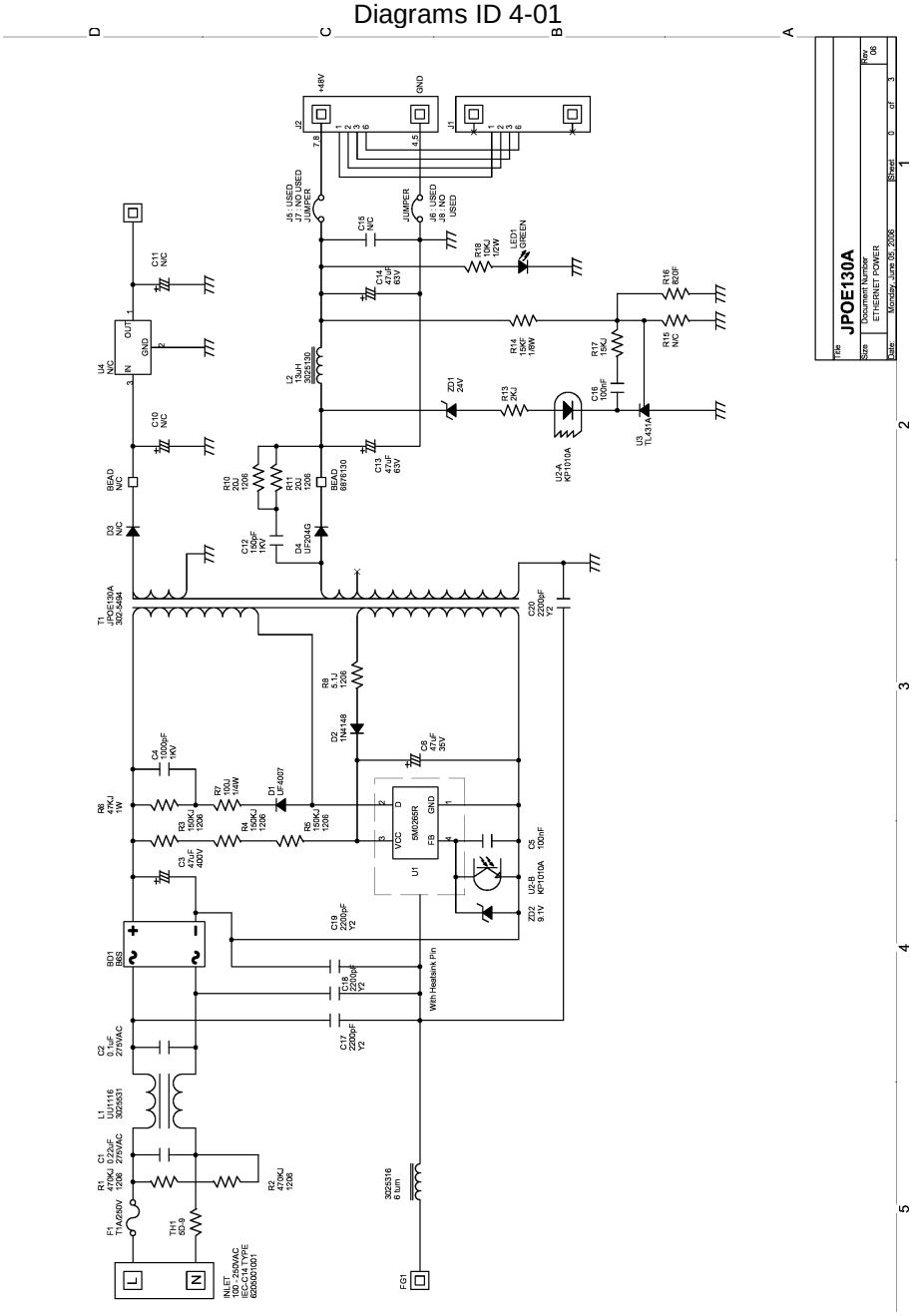




Enclosures

Diagrams ID 4-01



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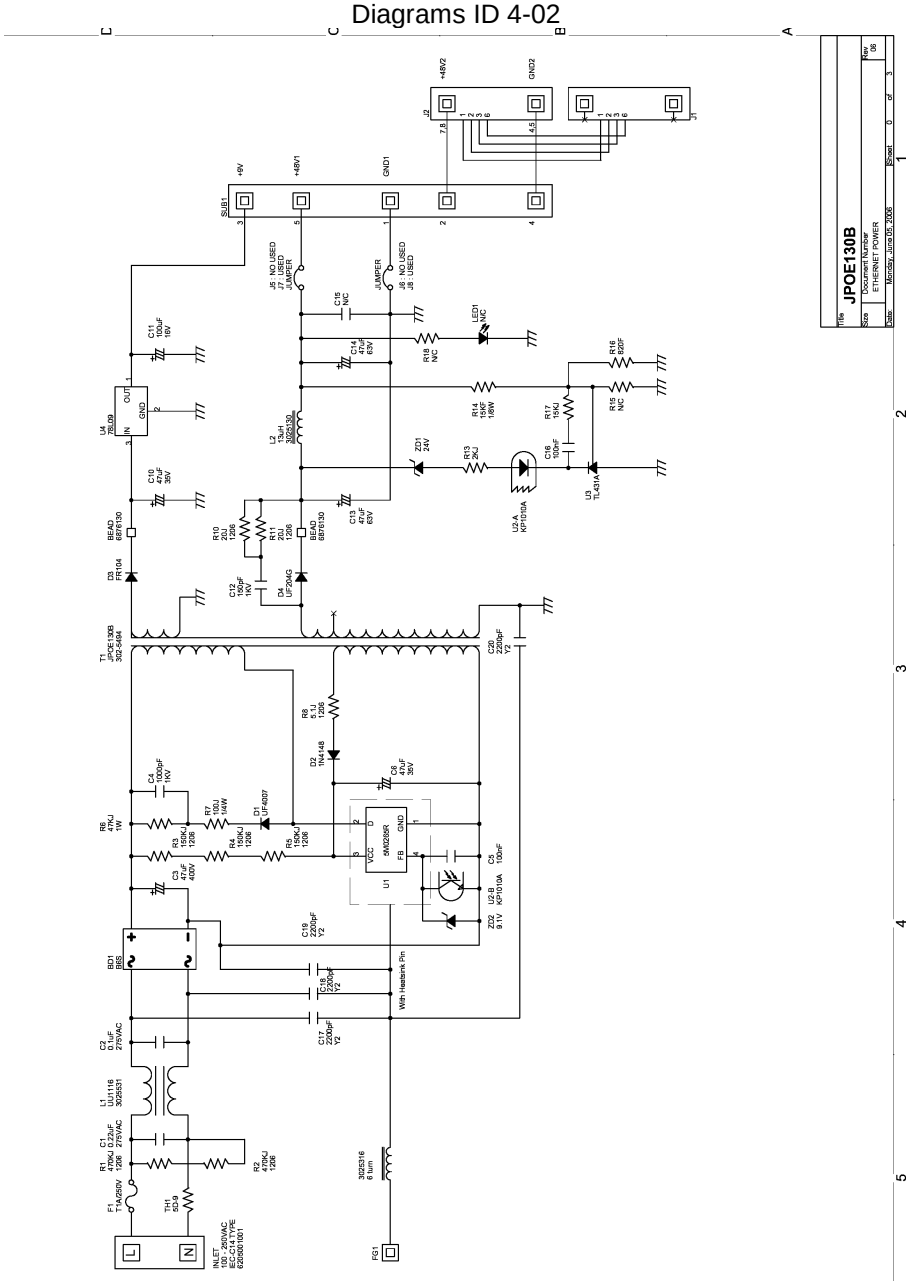

Enclosures

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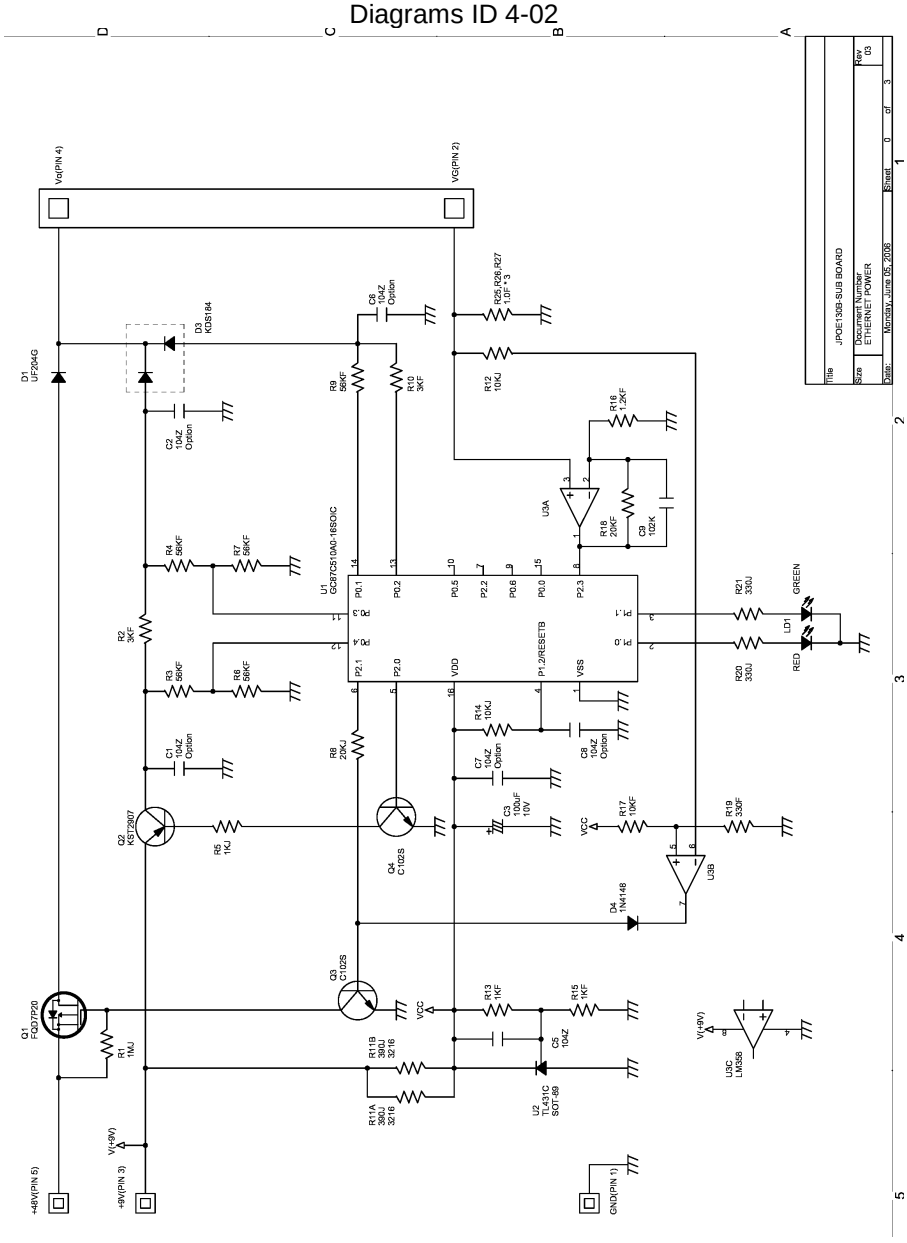

Enclosures

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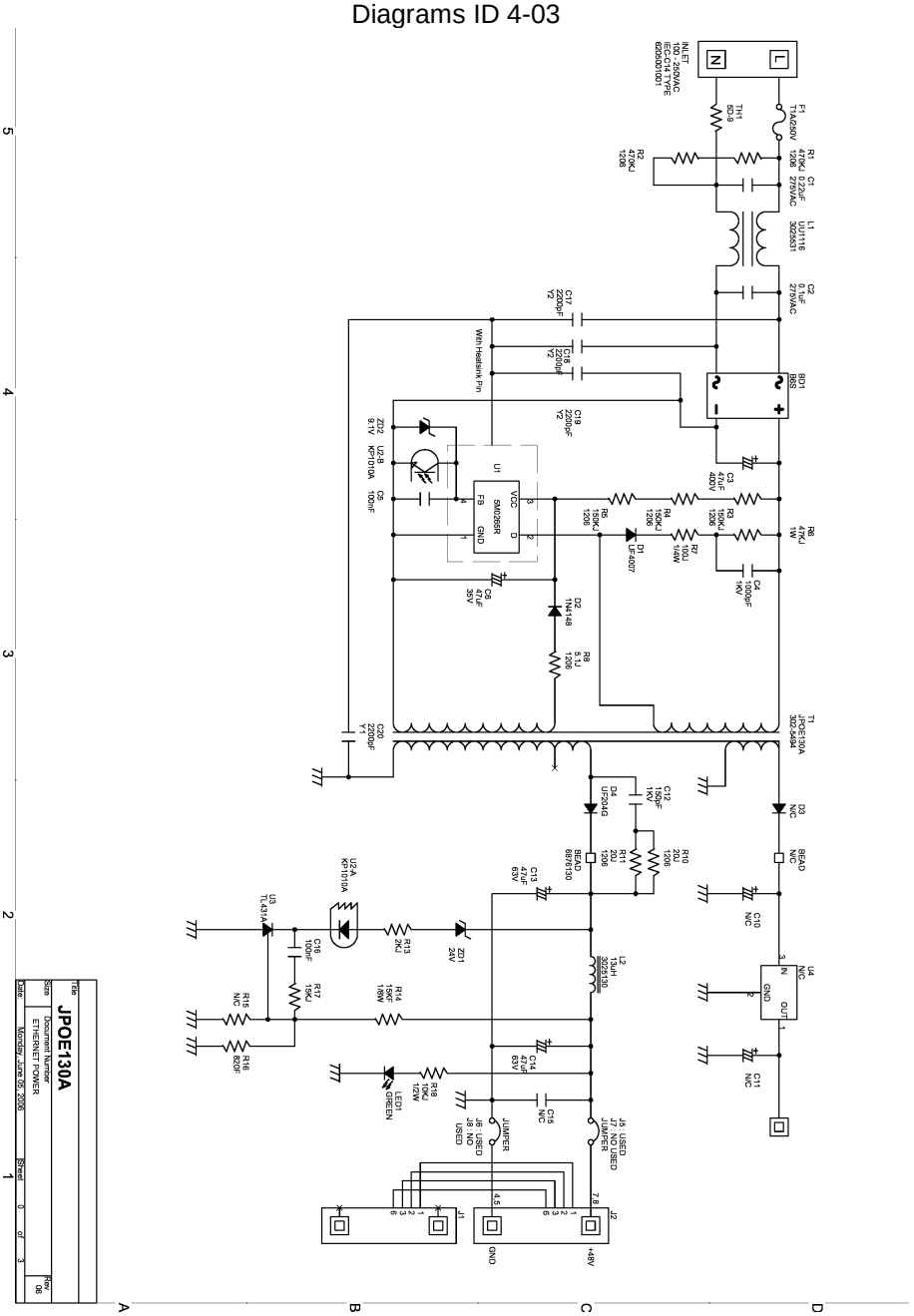

Enclosures

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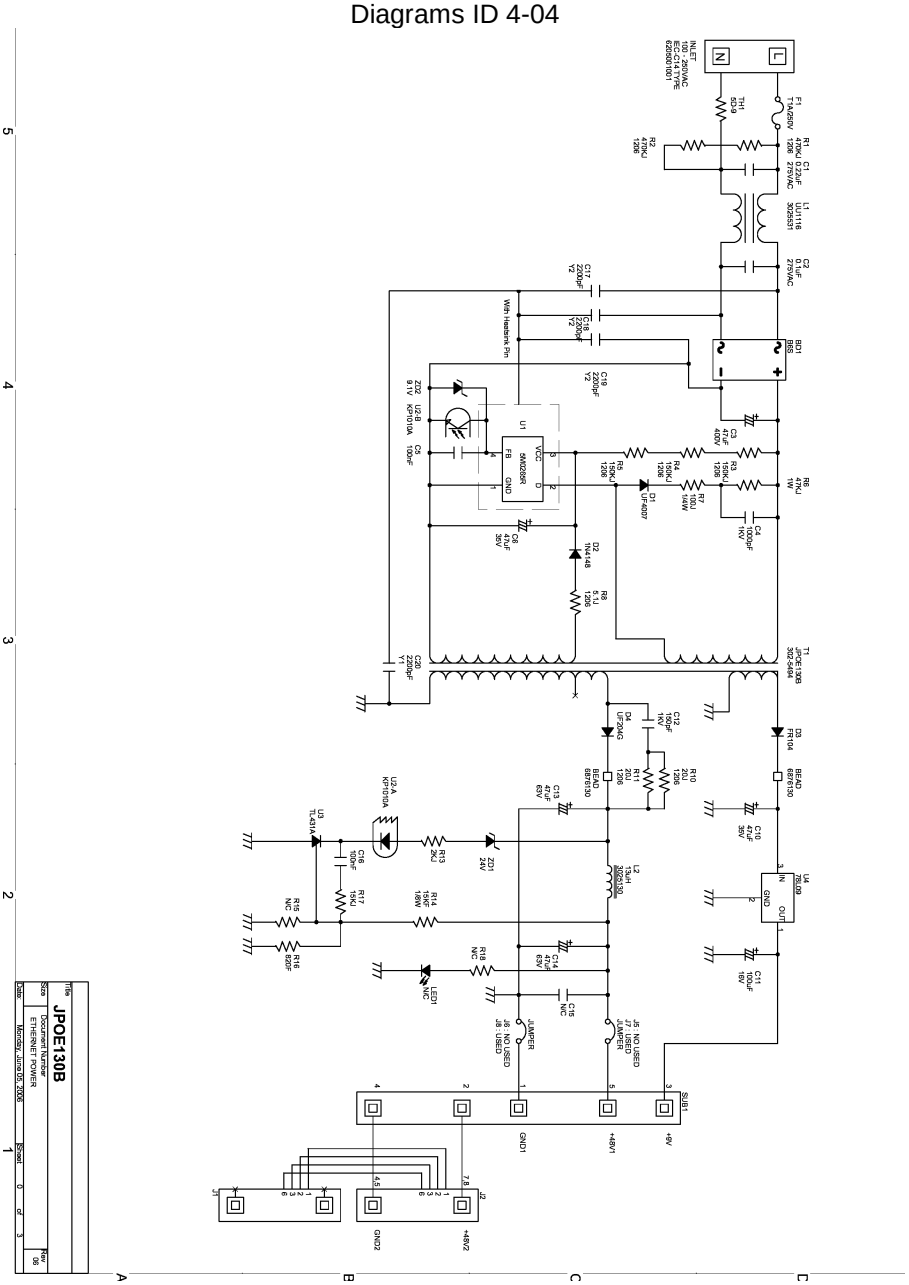

Enclosures

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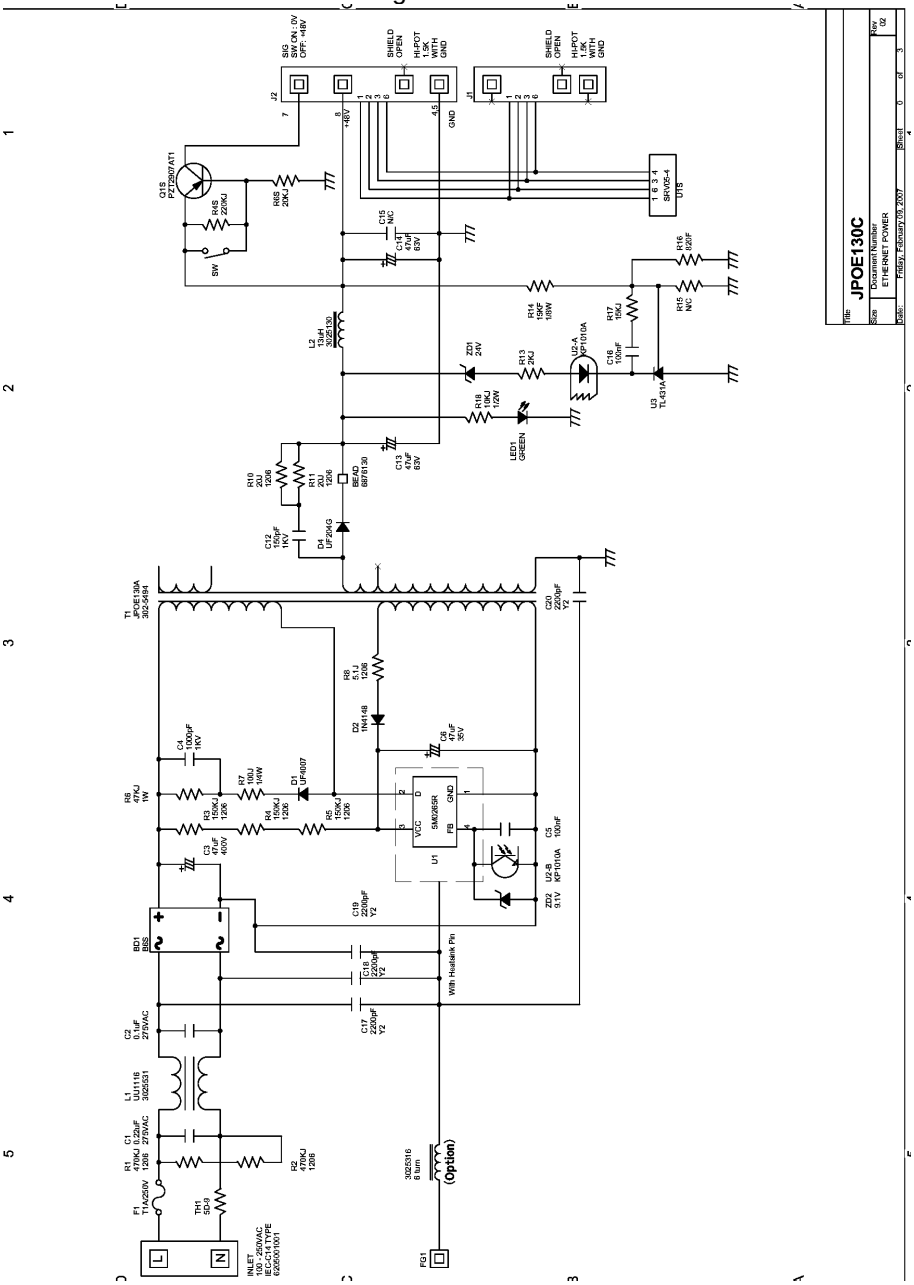
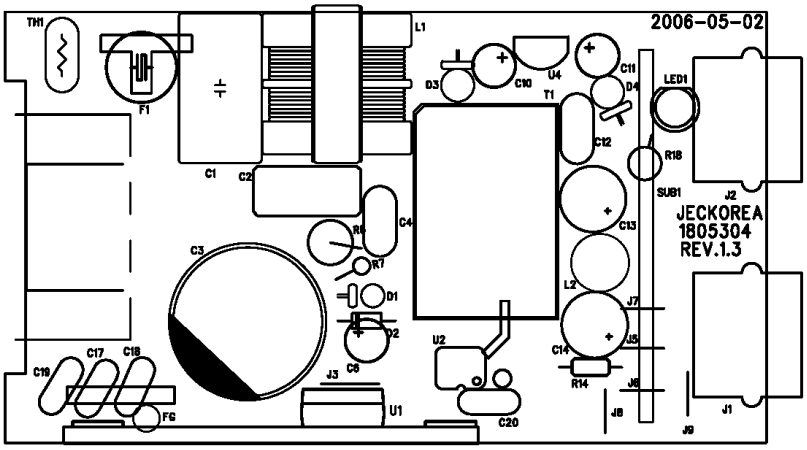
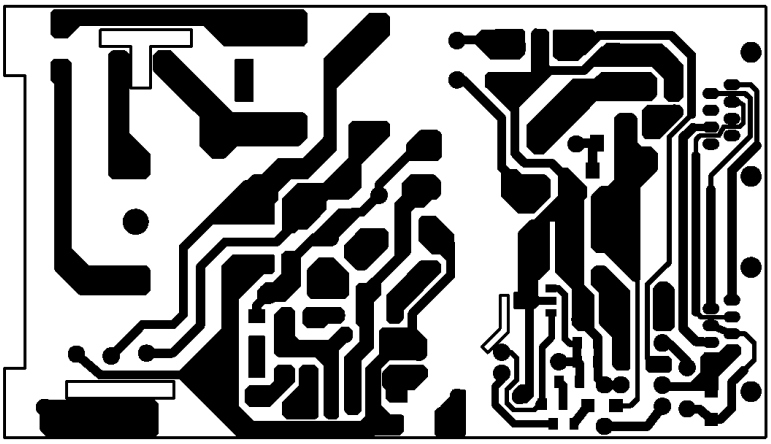


Enclosures

Schematics ID 5-01





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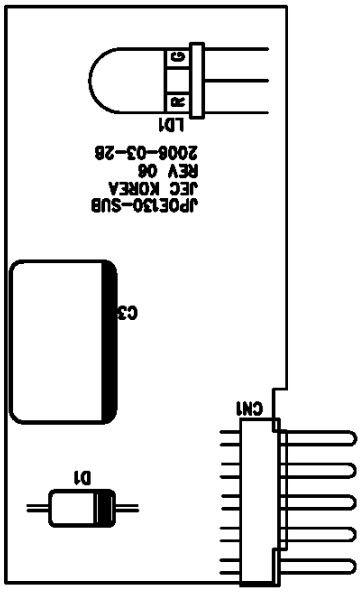

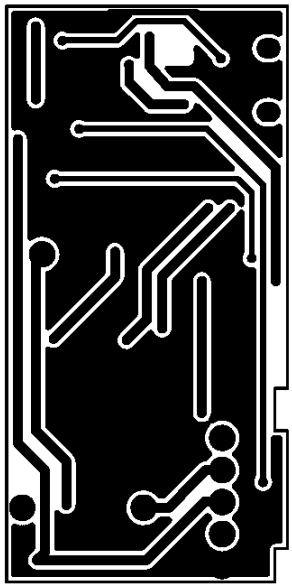

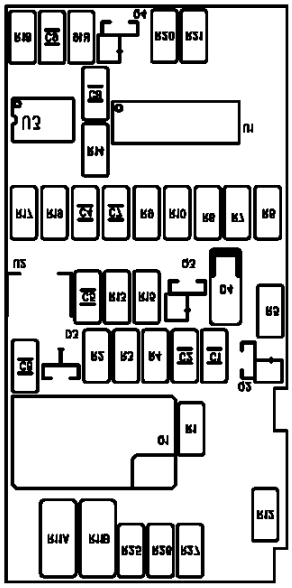

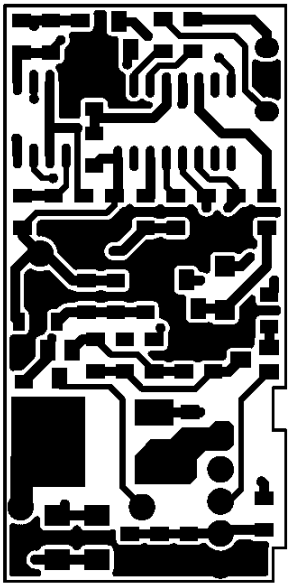

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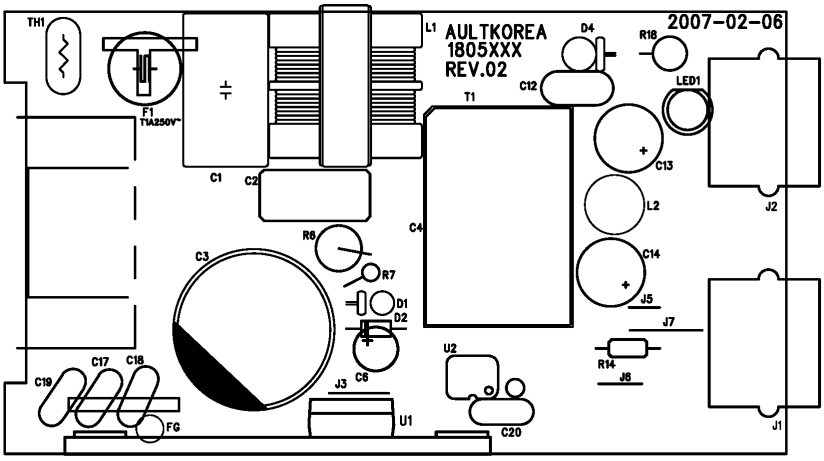
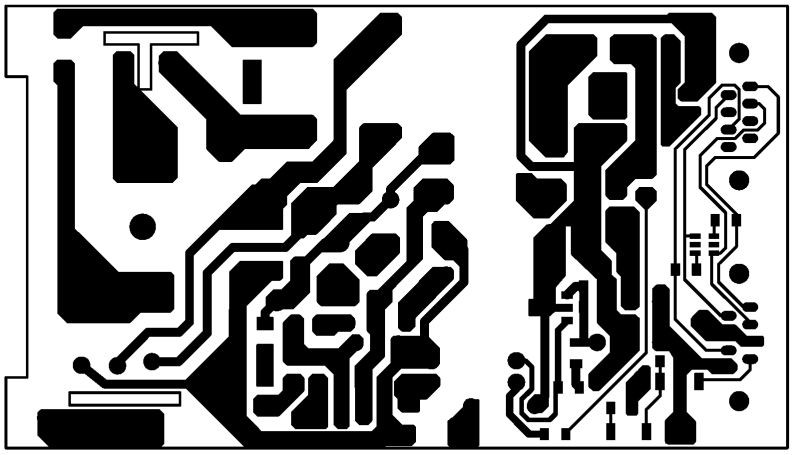




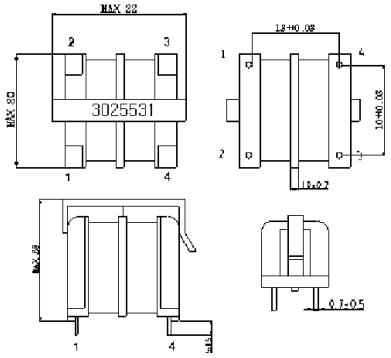
Misc ID 7-02

CUSTOMER : (주) 알 트 코 리 아

S P E C I F I C A T I O N S					
ITEM	LINE FILTER	PART NO	3025531	REV	A

1-1. 본 사양서는 (주) 알트코리아 P/N 3025531 LINE FILTER 에 적용한다.
1-2. 외관 : 육안검사시 지저분한 오물, 긁힘, 이물질이 보여서는 안된다.
1-3. 포장 및 납품 : 운송 중 제품에 외관손상 및 전기적 특성의 기밀이 누설되지 않도록 포장하며 납품시는 검사성적서를 첨부하여 납품한다.

2. DIMENTION (UNIT : mm)



DESIGN	APPROVAL	FILE NO	REV	DATE	REVISIONS
			A	2006.05.23	RELEASE

(주) JEC KOREA

Misc ID 7-02

CUSTOMER : (주) 알 트 코 리 아

S P E C I F I C A T I O N S

ITEM	LINE FILTER	PART NO	3025531	REV	A

3. 권선사양

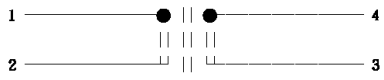
순위	단자 번호	권선수	권선 재질	코일 가닥
W 1	1 - 2	150 TS	2UEW 0.28	1 가닥
W 2	4 - 3	150 TS	2UEW 0.28	1 가닥

※ 참조사항 1) 권선오차는 ± 0 Turns.

4. 인쇄사양

1) 불변 잉크로 3025531 LINE FILTER 앞면에 인쇄한다.

5. 권선도



DESIGN	APPROVAL	FILE NO	REV	DATE	REVISIONS
			A	2006.05.23	RELEASE

(주) JEC KOREA

Misc ID 7-02

CUSTOMER : (주) 알 트 코 리 아

S P E C I F I C A T I O N S

ITEM	LINE FILTER	PART NO	3025531	REV	A

6. 전기적 특성

번호	항 목	단자번호	규 격	비 고
1	인덕턴스	1 - 2 , 3 - 4	40.0 mH MIN at 1Khz	KDC-535C

7.MATERIAL-LIST

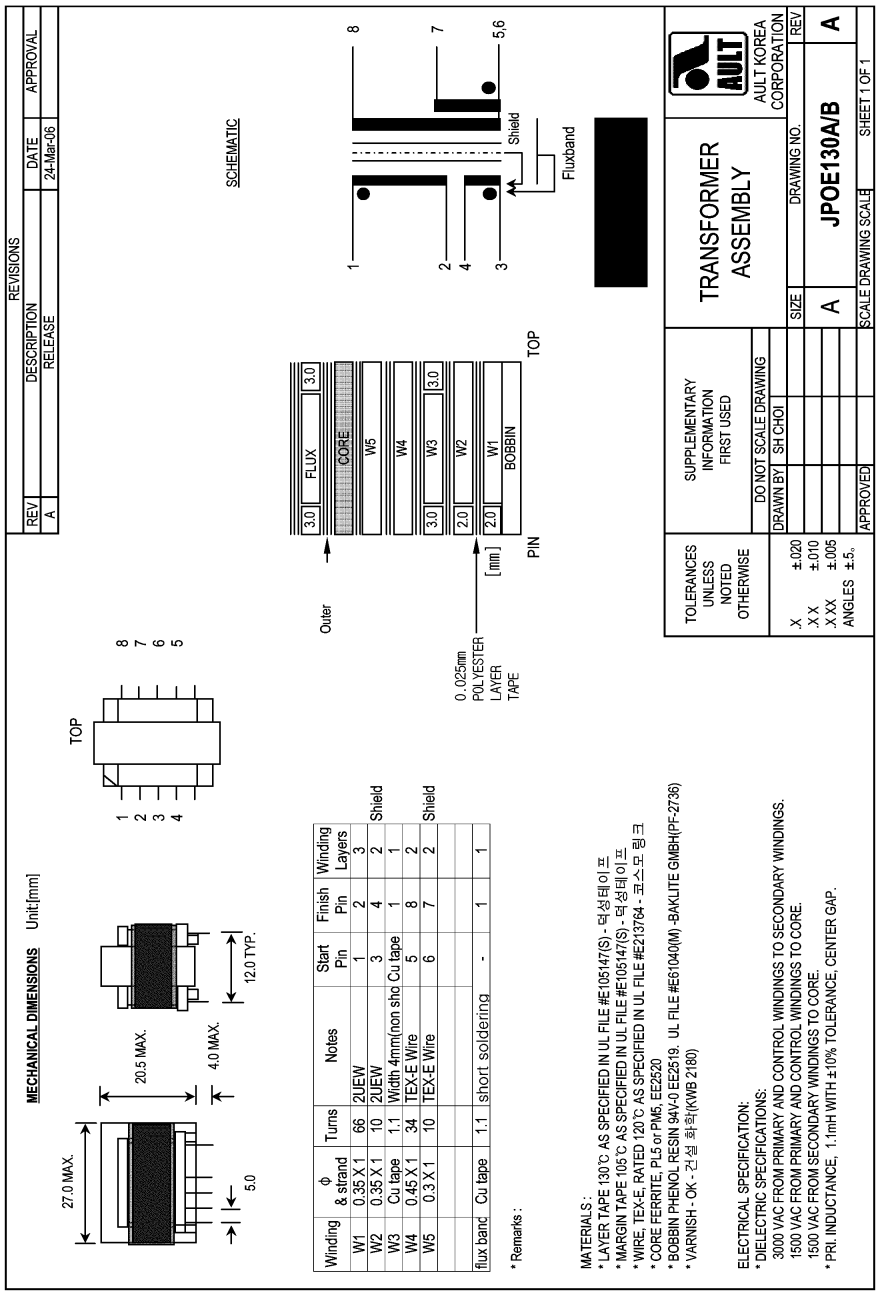
번호	부 품	재 질	형 태	제 조 자	UL FILE NO.
1	CORE	HM-3 or GP-9	UU1116	SAMHWA , ISU	
2	BOBBIN	PHENOL RESIN	UU1116	BAKELITE	E61040(M)
3	WIRE	2UEW	0.28	LG,동양전선,EQUIV	E84441(S)
4	VARNISH	DVB-2108T	무형제형	노루포페이트,제비표	

DESIGN	APPROVAL	FILE NO	REV	DATE	REVISIONS
			A	2006.05.23	RELEASE

(주) JEC KOREA

Enclosures

Misc ID 7-03



Winding	φ & strand	Turns	Notes	Start Pin	Finish Pin	Winding Layers	
W1	0.35 X 1	66	2UEW	1	2	3	
W2	0.35 X 1	10	2UEW	3	4	2	Shield
W3	Cu tape	1.1	Width 4mm(non shc Cu tape	1	1	1	
W4	0.45 X 1	34	TEX-E Wire	5	8	2	
W5	0.3 X 1	10	TEX-E Wire	6	7	2	Shield
flux band	Cu tape	1.1	short soldering	-	1	1	

* Remarks :

MATERIALS :
* LAYER TAPE 130℃ AS SPECIFIED IN UL FILE #E105147(S) - 덕성테이프
* MARGIN TAPE 105℃ AS SPECIFIED IN UL FILE #E105147(S) - 덕성테이프
* WIRE, TEX-E, RATED 120℃ AS SPECIFIED IN UL FILE #E213764 - 코스모 링크
* CORE FERRITE, PL5 or PM5, EE2520
* BOBBIN PHENOL RESIN 94V-0 EE2519. UL FILE #E61040(M) -BAKLITE GMBH(PF-2736)
* VARNISH - OK - 건설 화학(KWB 2180)

ELECTRICAL SPECIFICATION:
* DIELECTRIC SPECIFICATIONS:
3000 VAC FROM PRIMARY AND CONTROL WINDINGS TO SECONDARY WINDINGS.
1500 VAC FROM PRIMARY AND CONTROL WINDINGS TO CORE.
1500 VAC FROM SECONDARY WINDINGS TO CORE.
* PRI. INDUCTANCE, 1.1mH WITH ±10% TOLERANCE, CENTER GAP.

TOLERANCES UNLESS NOTED OTHERWISE
X ±.020
.XX ±.010
.XXX ±.005
ANGLES ±.5°

SUPPLEMENTARY INFORMATION FIRST USED

DO NOT SCALE DRAWING
DRAWN BY SH CHOI
APPROVED
SIZE A
DRAWING NO. JPOE130A/B
REV A
SCALE DRAWING SCALE

Misc ID 7-05

Enclosure

National Differences

(Total 7 Pages including this Cover Page)

China - IEC60950, Third Edition (1999)

Japan - IEC60950, Third Edition (1999)

Australia – IEC60950-1, First Edition (2001)

Enclosures

Misc ID 7-05

China - Differences to IEC60950, Third Edition (1999)			
1.4.5	The tolerance of rated voltage in IEC 60950 from +6% to -10% is changed by GB4943-2001 to tolerance of +10% and -10%		Pass
1.7.1	Markings for supply voltage and frequency shall include China's mains voltage. According to GB4943-2001 a single rated voltage is expressed as 220 V		Pass
1.7.1	- When a rated voltage range is given, the range covers 220 V	100-250 Vac	Pass
1.7.1	- When a variety of rated voltages or rated voltage ranges are given, one of them is 220 V, and unit shall be set as 220 V when shipped from the factory	100-250 Vac	Pass
1.7.1	- Rated frequency is 50 Hz or rated frequency range includes 50Hz	50-60 Hz	Pass
1.7.1	- A unit not provided with a means for direct connection to the AC mains supply does not need to be marked with any electrical rating		N/A
1.7.12	According to GB4943-2001 instructions and equipment markings related to safety are provided in standardized Chinese	To be determined before marketed in China.	Pass
3.2.1	Power supply plugs that are connecting equipment to AC mains supply are in accordance with requirements of Chinese standard GB1002	A detachable power supply cord in compliance with national requirements will be provided by the local distributor.	Pass

Japan - Differences to IEC60950, Third Edition (1999)			
1.2.4.101	Addition: Definition of CLASS 0I EQUIPMENT	Not Class 0I equipment	N/A
1.2.12.1	Replacement: FLAMMABILITY CLASSIFICATION OF MATERIALS: "The recognition of the burning behaviour of materials and their ability to extinguish if ignited. Materials are classified as in 1.2.12.2 to 1.2.12.9, and 1.2.12.101 when tested in accordance with annex A"	All materials have suitable flame class, no testing required.	N/A
1.2.12.101	Addition: Definition of VTM CLASS MATERIAL		N/A
1.7.101	Addition: Marking for CLASS 01 EQUIPMENT The following instruction is indicated on the visible	Not Class 0I equipment	N/A

Enclosures

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	place of the mains plug or the main body: "Provide an earthing connection"		
1.7.101	Addition: Marking for CLASS 01 EQUIPMENT The following instruction is indicated on the visible place on the main body or written in the operating instructions: "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains."	Not Class 0I equipment	N/A
2.1.1.1	Replace: "IEC 60083" by "IEC 60083 or JIS C 8303" in 2.1.1.1 b)		N/A
2.6.3.1	Add the following after 1st paragraph: "This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT"	Not Class 0I equipment	N/A
2.6.4.1	Replace 2nd sentence in 1st paragraph: "For CLASS I EQUIPMENT with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal"	A detachable power supply cord in compliance with national requirements will be provided by the local distributor.	Pass
2.6.5.4	Replace 1st sentence: "Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:"		Pass
2.6.101	Addition: Earthing of CLASS 01 EQUIPMENT Plugs with a lead wire for earthing not used for equipment having a rated voltage exceeding 150 V	Not Class 0I equipment	N/A
2.6.101	Addition: Earthing of CLASS 01 EQUIPMENT For plugs with a lead wire for earthing, the lead wire is not earthed by a clip	Not Class 0I equipment	N/A
2.6.101	Addition: Earthing of CLASS 01 EQUIPMENT provided with an earthing terminal or lead wire for earthing in the external where easily visible	Not Class 0I equipment	N/A
3.2.5	Delete the following statement from a note 1 in Table 3B: "For RATED CURRENT up to 3A, a nominal cross-sectional area of 0.5 mm2 is permitted in some countries provided that the length of the cord does not exceed 2 m"		N/A
4.2.8	Add the following informative remark after the last sentence: "IEC 61965 is also applicable instead of IEC 60065"	No CRTs in the equipment	N/A

Enclosures

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4.5.1	Add the following to note 5) of Table 4A, Part 2: "With regard to Table 4A, insulating materials complying with Japanese requirements (refer to Japanese differences for IEC 60335-1 3rd Edition in CB Bulletin 101B) are also acceptable"	Considered	Pass
4.5.1	Add a note reference 7) to "50", in the right column of Table 4A, Part 1 and add a note 7 to Table 4A, Part 2 as follows: "7) This value apply only to wiring or cords complying with relevant IEC standards. Others comply with Japanese requirements (refer to Japanese differences for IEC 60335-1 3rd Edition in CB Bulletin 101B)"	Considered	Pass
4.7.3.2	Add the following in 7th paragraph: "- for thin materials, e.g., flexible printed boards, etc., used inside equipment, be of FLAMMABILITY CLASS VTM-2 or better"	V-1 or better.	Pass
5.1.6	Replace Table 5A to include maximum TOUCH CURRENT values for CLASS 0I EQUIPMENT	Not Class 0I equipment	N/A
5.3.8.2	Replace 3rd Item as follows: "- BASIC INSULATION between the PRIMARY CIRCUIT and accessible conductive parts of CLASS I or 0I EQUIPMENT;"		N/A
Annex A	Add the subclause A.101titled: "Flammability tests for classifying materials VTM" and the following: "Thin sheet materials shall comply with ISO 9773"		N/A
Annex G	Add to the Note for Table G.1. "2. In Japan, MAINS TRANSIENT VOLTAGE for equipment with a Nominal AC MAINS SUPPLY VOLTAGE of 100V is to be decided based on the column where Nominal AC MAINS SUPPLY VOLTAGE in Table G.1 is 150V"		N/A
Annex P	Add: "IEC 61965:2000, Mechanical Safety for Cathode Ray Tubes"		N/A
Annex U	Replace 2nd paragraph as follows: "This annex covers to round winding wires having diameters between 0.05 mm and 5.00 mm"		N/A
U.2.1	Replacement:Electric strength "The test sample is prepared per IEC 60851-5:1997, 4.4.1 (for a twisted pair and subjected to the test of 5.2.2, with a test voltage not less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows:		N/A

Enclosures

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	- for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000 V, or; - for REINFORCED INSULATION, 6000 V"		
U.2.2	Replacement:Flexibility and adherence Test 8 of IEC 60851-3:1996, 5.1.1, using the mandrel diameter of Table U.1 (mm)		N/A
U.2.2	Test voltage not less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard and not less than: - 1500 V for BASIC INSULATION or SUPPLEMENTARY INSULATION, or; - 3000 V for REINFORCED INSULATION		N/A

Australia - Differences to IEC60950-1, First Edition (2001)			
1.2.12.11	POTENTIAL IGNITION SOURCE Possible fault which can starts a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. Note 201: An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE.		Pass
1.5.1	Add to the first paragraph: "or the relevant Australian / New Zealand Standard".		Pass
1.5.2	Add to the first and third dashed items after the words "IEC Component Standard": "or the relevant Australian / New Zealand Standard".		Pass
1.6.1	Add: AC power distribution systems classified as TT or IT are not allowed		N/A
1.7.12	Add to the first paragraph: All safety instructions and safety markings shall be in English.		Pass
3.2.5	Substitute for Table 3B: Sizes of Conductors --- Rated Current of Equipment (A) / Nominal cross-sectional area (mm^2) --- 0.2 <= 3 — 0.5* 3 <= 7.5 — 0.75 7.5 <= 10 — (0.75) 1.00		Pass

Enclosures

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	10 <= 16 (1,0) 1.5 16 <= 25 2.5 25 <= 32 4 32 <= 40 6 40 <= 63 10 63 <= 80 16 80 <= 100 25 100 <= 125 35 125 <= 160 50 160 <= 190 70 190 <= 230 95 230 <= 260 120 260 <= 300 150 300 <= 340 185 340 <= 400 240 400 <= 460 300 --- * This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord or cord guard, enters the appliance, and the entry to the plug, does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see Note 2 to Table 2.17 of AS/NZS 3191).		
4.3.6	Replace the third paragraph: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.3.13	For the purpose of this standard compliance with AS/NZS 2211.1 is deemed to be compliance with IEC60825.1		N/A
4.7	Add after the clause: For alternative resistance to fire tests, refer to Annex YY.		N/A
6.2.1	Replace item c) with: An SELV circuit, a TNV-2 circuit or a Limited Current Circuit provided for connection of other equipment. The requirement for separation applies whether or not this circuit is accessible.		N/A
6.2.2	Replace the first paragraph by: In Australia (not in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.		N/A
6.2.2.1	Replace 6.2.2.1 with: In Australia (not in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the		N/A

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	impulse test generator of Annex N for 10/700µs impulses. The interval between successive impulses is 60 s and the initial voltage, Uc is: - for 6.2.1a): 7.0 kV for hand-held telephones and for headsets; 2.5 kV for other equipment; for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 1 - The 7 kV impulse is to simulate lightning surges on typical rural and semi-rural network lines. NOTE 2 - The value of 2.5 kV for 6.2.1a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		
6.2.2.2	Replace the first and second paragraphs of 6.2.2.2 with: In Australia (not New Zealand), the electrical separation is subjected to an electric strength test according to 5.2.2. The a.c. test voltage is: - for 6.2.1a) 3 kV - for 6.2.1b) and 6.2.1c) 1.5 kV NOTE 1 - Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 2 - The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A

Enclosures

Misc ID 7-07

DRAFT CB TEST CERTIFICATE INFORMATION

Generated by ULtraLink on: 2010-09-16

Product	Switching Power Supply
Name and address of the Applicant	BRIDGEPOWER CORP 964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA
Name and address of the Manufacturer	BRIDGEPOWER CORP 964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA
Name and address of the Factory(ies)	BRIDGEPOWER CORP 964 GOSAEK-DONG GWONSEON-GU SUWON-SI GYEONGGI-DO 441-813 KOREA WENDENG JEIL ELECTRONICS CO LTD DONG SHOU GUANGZHOU LU KAIFA-QU WENDENG-SHI SHANDONG CHINA
Rating and principal characteristics	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A
Trademarks (if any)	BridgePower
Model / Type ref.	JPOE130A48******, JPOE130B48******, JPOE130C48******, PW180*A48*****, PW180*B48*****, PW180*C48*****, PUTP-130A-***, PUTP-130B-***, PUTP-130C-*** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")
Additional information (if necessary)	N/A
A sample of the product was tested and found to be in conformity with	inclusive of CENELEC Common Modifications. See Test Report for National Differences.
As shown in the Test Report Ref. No. which forms part of this Certificate	E300305-A10

Client Representative	Jongnam Jeon
Client email (or fax)	jjweb@bridegepower.co.kr

Enclosures

Misc ID 7-07

This form is to acknowledge that the above information has been reviewed and the material has been found to be accurate as stated. This is also to record client's confirmation that above factories manufacture product(s) that are equal to those submitted for testing and certification. (Refer to IECEE 02, Sub-clause 6.2.5: "When the application covers more than one factory, the address of each factory shall be stated in the CB Test Certificate and the NCB shall take steps to ensure that the products from all the factories are equal. That shall be confirmed in the Test Report.")

Signed:  **Dated:** 2010-09-16

*__Definitions__ per IECEE 02 (http://www.iecee.com/cbscheme/pdf/IECEE02.pdf):

Applicant: A firm or a person who applies to an NCB for obtaining a CB Test Certificate.

Manufacturer: An organization, situated at a stated location or locations, that carries out or controls such stages in the manufacture, assessment, handling and storage of a product that enables it to accept responsibility for continued compliance of the product with the relevant requirements and undertakes all obligations in that connection.

Factory: The location(s) at which the product is produced or assembled and follow-up service is established by the NCB.

Enclosures

Misc ID 7-08

DRAFT CB TEST CERTIFICATE INFORMATION

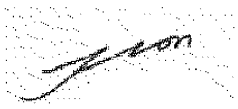
Product	Switching Power Supply
Name and address of the Applicant	BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Name and address of the Manufacturer	BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Name and address of the Factory(ies)	WENDENG JEIL ELECTRONICS CO LTD DONG SHOU GUANGZHOU LU KAIFA-QU WENDENG-SHI SHANDONG CHINA BRIDGEPOWER CORP (GOSAEK-DONG) 16 OMOKCHEN-RO 132BEON-GIL GWONSEON-GU SUWON-SI GYEONGGI 441-813 KOREA
Rating and principal characteristics	Input Rating: 100-250 Vac, 50-60 Hz, 0.5 A Output Rating: 48 Vdc, 0.4 A or 48 Vdc, 0.35 A or 48 Vdc, 0.32 A
Trademarks (if any)	BridgePower
Model / Type ref.	JPOE130A48******, JPOE130B48******, JPOE130C48******,PW180*A48*****, PW180*B48*****, PW180*C48*****, PUTP-130A-***, PUTP-130B-***, PUTP-130C-*** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")
Additional information (if necessary)	N/A
A sample of the product was tested and found to be in conformity with	inclusive of CENELEC Common Modifications. See Test Report for National Differences.
As shown in the Test Report Ref. No. which forms part of this Certificate	E300305-A10

Enclosures

Misc ID 7-08

Client Representative	Jongnam Jeon
Client email (or fax)	jjweb@bridegepower.co.kr

This form is to acknowledge that the above information has been reviewed and the material has been found to be accurate as stated. This is also to record client's confirmation that above factories manufacture product(s) that are equal to those submitted for testing and certification. (Refer to IECEE 02, Sub-clause 4.2.5: "When the application covers more than one factory, the address of each factory shall be stated in the CB Test Certificate and the NCB shall take steps to ensure that the products from all the factories are equal. That shall be confirmed in the Test Report.")

Signed:  **Dated:** 2014-10-22

*__Definitions__ per IECEE 02 (http://www.iecee.com/cbscheme/pdf/IECEE02.pdf):

Applicant: A firm or a person who applies to an NCB for obtaining a CB Test Certificate.

Manufacturer: An organization, situated at a stated location or locations, that carries out or controls such stages in the manufacture, assessment, handling and storage of a product that enables it to accept responsibility for continued compliance of the product with the relevant requirements and undertakes all obligations in that connection.

Factory: The location(s) at which the product is produced or assembled and follow-up service is established by the NCB.

Ref. Certif. No.

DK-41643-UL

Model Details:
JPOE130A48******,JPOE130B48******,JPOE130C48******,PUTP-130A-***,PUTP-130B-***,PUTP-130C-***,PW180*A48*****,PW180*B48*****,PW180*C48***** (Where * may be alphanumeric, "for marketing purpose and no impact safety related critical components and constructions")

Factories:

WENDENG JEIL ELECTRONICS CO LTD
DONG SHOU GUANGZHOU LU
KAIFA-QU
WENDENG-SHI, SHANDONG China

Additional Information:
Additionally evaluated to EN 60950-1:2006/ A11:2009/ A1:2010/ A12:2011/ A2:2013; National Differences specified in the CB Test Report.

Additional information (if necessary)
Information complémentaire (si nécessaire)

☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
☒ UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2014-10-28

Signature:

Jan-Erik Storgaard