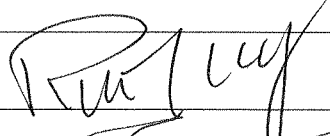
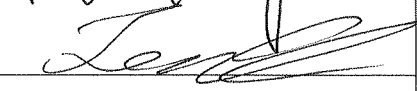


Test Report issued under the responsibility of:



TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number.....	11031444 001
Date of issue.....	December 5, 2012
Total number of pages.....	82
CB Testing Laboratory	TÜV Rheinland Taiwan Ltd., Taichung Laboratory
Address.....	No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City 428, Taiwan
Applicant's name	FSP Group Inc.
Address.....	No. 22, Jianguo E. Road, Taoyuan 330 Taiwan
Manufacturer's name	Same as applicant
Address.....	Same as applicant
Test specification:	
Standard.....	IEC 60950-1:2005 (Second Edition); Am 1:2009
Test procedure.....	CB Scheme
Non-standard test method.....	N/A
Test Report Form No.	IEC60950_1C
Test Report Form(s) Originator.....	SGS Fimko Ltd
Master TRF.....	Dated 2012-08
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Test item description	Switching Power Supply
Trade Mark.....	1) FSP; 2) SPI
Manufacturer.....	Same as applicant.
Model/Type reference.....	1) FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600) 2) SPIxxxU4BB (xxx=500, 460, 400), SPIyyyW7BB (yyy=500, 600)
Ratings.....	See page 9

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	See cover page
Testing location/ address :		See cover page
<input type="checkbox"/>	Associated CB Laboratory:	
Testing location/ address..... :		
<input type="checkbox"/>	Tested by (name + signature).....:	Robert Kong 
	Approved by (name + signature)	Jean Chen 
	Testing procedure: TMP	N/A
Testing location/ address..... :		
	Tested by (name + signature).....:	
	Approved by (name + signature)	
<input type="checkbox"/>	Testing procedure: WMT	N/A
Testing location/ address..... :		
	Tested by (name + signature).....:	
	Witnessed by (name + signature).....:	
	Approved by (name + signature)	
<input type="checkbox"/>	Testing procedure: SMT	N/A
Testing location/ address..... :		
	Tested by (name + signature).....:	
	Approved by (name + signature)	
	Supervised by (name + signature).....:	
<input type="checkbox"/>	Testing procedure: RMT	N/A
Testing location/ address..... :		
	Tested by (name + signature).....:	
	Approved by (name + signature)	
	Supervised by (name + signature).....:	

List of Attachments (including a total number of pages in each attachment):

- Photo Documentation
- National Differences
- Measurement Section

Total number of pages in each attachment is indicated in each individual attachment, except for Measurement Section is combine with this main test report in the last page.

Summary of testing:

Tests performed (name of test and test clause):	Testing location:
<ul style="list-style-type: none"> - All applicable tests as described in Test Case and Measurement Sections were performed. - The maximum ambient temperature is specified as 50°C. - Load conditions used during testing, see appended table 1.6.2. - Unless otherwise specified, all tests were performed on models FSP400-701UH, FSP460-701UH, FSP500-701UH, FSP500-702UH and FSP600-702UH to represent other similar model. - Pre-production samples without serial numbers. 	<p>All tests as described in Test Case and Measurement Sections were performed at the laboratory described on cover page.</p>

Summary of compliance with National Differences

List of countries addressed:

EU Group Differences, EU Special National Conditions, CA, DE, DK, FI, GB, IL, KR, SE, SI, US,
*(AU, CN, CH, ES, IE, NO),
**(BY, JP)

Explanation of used codes: CA = Canada, DE = Germany, DK=Denmark, FI = Finland, GB=United Kingdom, SE=Sweden, SI=Slovenia, IL = Israel, KR = Republic of Korea, US = United States,
*(AU = Australia, CN=China, CH=Switzerland, ES=Spain, IE=Ireland, NO=Norway),
**(BY=Belarus, JP=Japan)

* National differences to IEC 60950-1:2005 evaluated.

** National differences to IEC 60950-1:2001 evaluated.

The product fulfils the requirements of EN 60950-1:2006+A11:2009+A1:2010+A12:2011.

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

(Additional requirements for markings. See 1.7 NOTE)

<p>FSP GROUP INC.</p> <p>MODEL NO: FSP400-701UH AC INPUT:100-240V~, 5-4A, 50-50Hz MAX. OUTPUT POWER: 400W (+3.3V & +5V=120W Max)(+12V1 & +12V2 & +12V3=30A Max) DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL) +12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE) +5Vsb === 3.0A(PURP),+12V === 0.5A(BLUE) P.G. SIGNAL (GRAY),GROUND (BLACK)</p> <p>WARNING! HAZARDOUS AREA SAFETY INSTRUCTIONS: DO NOT REMOVE THE COVER NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. WARNUNG! GEFAHRENZONE SICHERHEITSHINWEISE: VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN. KEINE SERVICERELEVANTE BAUTEILE ENTHALTEN. SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.</p>  <p>SL10090312P</p>	<p>FSP GROUP INC.</p> <p>MODEL NO: FSP460-701UH AC INPUT:100-240V~, 5-4A, 50-50Hz MAX. OUTPUT POWER: 460W (+3.3V & +5V=130W Max)(+12V1 & +12V2 & +12V3=36A Max) DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL) +12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE) +5Vsb === 3.0A(PURP),+12V === 0.5A(BLUE) P.G. SIGNAL (GRAY),GROUND (BLACK)</p> <p>WARNING! HAZARDOUS AREA SAFETY INSTRUCTIONS: DO NOT REMOVE THE COVER NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. WARNUNG! GEFAHRENZONE SICHERHEITSHINWEISE: VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN. KEINE SERVICERELEVANTE BAUTEILE ENTHALTEN. SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.</p>  <p>SL10090307P</p>
<p>FSP GROUP INC.</p> <p>MODEL NO: FSP500-701UH AC INPUT:100-240V~, 5-4A, 50-50Hz MAX. OUTPUT POWER: 500W (+3.3V & +5V=130W Max)(+12V1 & +12V2 & +12V3=39A Max) DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL) +12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE) +5Vsb === 3.0A(PURP),+12V === 0.5A(BLUE) P.G. SIGNAL (GRAY),GROUND (BLACK)</p> <p>WARNING! HAZARDOUS AREA SAFETY INSTRUCTIONS: DO NOT REMOVE THE COVER NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. WARNUNG! GEFAHRENZONE SICHERHEITSHINWEISE: VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN. KEINE SERVICERELEVANTE BAUTEILE ENTHALTEN. SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.</p>  <p>SL10090309P</p>	<p>FSP GROUP INC.</p> <p>MODEL NO: FSP500-702UH AC INPUT:100-240V~, 5-4A, 50-50Hz MAX. OUTPUT POWER: 500W (+3.3V & +5V=130W Max)(+12V1 & +12V2 & +12V3=39A Max) DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL) +12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE) +5Vsb === 3.0A(PURP),+12V === 0.5A(BLUE) P.G. SIGNAL (GRAY),GROUND (BLACK)</p> <p>WARNING! HAZARDOUS AREA SAFETY INSTRUCTIONS: DO NOT REMOVE THE COVER NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. WARNUNG! GEFAHRENZONE SICHERHEITSHINWEISE: VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN. KEINE SERVICERELEVANTE BAUTEILE ENTHALTEN. SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.</p>  <p>SL10090412P</p>
<p>FSP GROUP INC.</p> <p>MODEL NO: FSP600-702UH AC INPUT:100-240V~, 10-5A, 60-50Hz MAX. OUTPUT POWER: 600W (+3.3V & +5V=150W Max)(+12V1 & +12V2 & +12V3=48A Max) DC OUTPUT: +3.3V === 25.0A(ORG),+5V === 25.0A(RED),+12V1 === 16.0A(YEL) +12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE) +5Vsb === 3.0A(PURP),+12V === 0.5A(BLUE) P.G. SIGNAL (GRAY),GROUND (BLACK)</p> <p>WARNING! HAZARDOUS AREA SAFETY INSTRUCTIONS: DO NOT REMOVE THE COVER NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. WARNUNG! GEFAHRENZONE SICHERHEITSHINWEISE: VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN. KEINE SERVICERELEVANTE BAUTEILE ENTHALTEN. SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.</p>  <p>SL10090410P</p>	

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

(Additional requirements for markings. See 1.7 NOTE)

SPI SPARKLE POWER INC.
SWITCHING POWER SUPPLY.

MODEL NO: SPI400U4BB
AC INPUT:100-240V~,8-4A,60-50Hz
MAX. OUTPUT POWER: 400W (+3.3V & +5V=120W Max) (+12V1 & +12V2 & +12V3=30A Max)
DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL)
+12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE)
+5Vsb === 3.0A(PURP),-12V === 0.5A(BLUE)
P.G, SIGNAL (GRAY),GROUND (BLACK)

WARNING! HAZARDOUS AREA
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REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
WARNUNG! GEFAHRENZONE
SICHERHEITSHINWEISE:
VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN.
KEINE SERVICERELEVANTEN BAUTEILE ENTHALTEN.
SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.



6LL*****GP

SPI SPARKLE POWER INC.
SWITCHING POWER SUPPLY.

MODEL NO: SPI460U4BB
AC INPUT:100-240V~,8-4A,60-50Hz
MAX. OUTPUT POWER: 460W (+3.3V & +5V=130W Max) (+12V1 & +12V2 & +12V3=35A Max)
DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL)
+12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE)
+5Vsb === 3.0A(PURP),-12V === 0.5A(BLUE)
P.G, SIGNAL (GRAY),GROUND (BLACK)

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VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN.
KEINE SERVICERELEVANTEN BAUTEILE ENTHALTEN.
SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.



6LL*****GP

SPI SPARKLE POWER INC.
SWITCHING POWER SUPPLY.

MODEL NO: SPI500U4BB
AC INPUT:100-240V~,8-4A,60-50Hz
MAX. OUTPUT POWER: 500W (+3.3V & +5V=130W Max) (+12V1 & +12V2 & +12V3=39A Max)
DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL)
+12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE)
+5Vsb === 3.0A(PURP),-12V === 0.5A(BLUE)
P.G, SIGNAL (GRAY),GROUND (BLACK)

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KEINE SERVICERELEVANTEN BAUTEILE ENTHALTEN.
SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.



6LL*****GP

SPI SPARKLE POWER INC.
SWITCHING POWER SUPPLY.

MODEL NO: SPI500W7BB
AC INPUT:100-240V~,8-4A,60-50Hz
MAX. OUTPUT POWER: 500W (+3.3V & +5V=130W Max) (+12V1 & +12V2 & +12V3=39A Max)
DC OUTPUT: +3.3V === 20.0A(ORG),+5V === 20.0A(RED),+12V1 === 16.0A(YEL)
+12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE)
+5Vsb === 3.0A(PURP),-12V === 0.5A(BLUE)
P.G, SIGNAL (GRAY),GROUND (BLACK)

WARNING! HAZARDOUS AREA
SAFETY INSTRUCTIONS:
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REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
WARNUNG! GEFAHRENZONE
SICHERHEITSHINWEISE:
VOR DEM ÖFFNEN DES GERÄTES NETZSTECKER ZIEHEN.
KEINE SERVICERELEVANTEN BAUTEILE ENTHALTEN.
SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.



6LL*****GP

SPI SPARKLE POWER INC.
SWITCHING POWER SUPPLY.

MODEL NO: SPI600W7BB
AC INPUT:100-240V~,10-5A,60-50Hz
MAX. OUTPUT POWER: 600W (+3.3V & +5V=150W Max) (+12V1 & +12V2 & +12V3=48A Max)
DC OUTPUT: +3.3V === 25.0A(ORG),+5V === 25.0A(RED),+12V1 === 16.0A(YEL)
+12V2 === 16.0A(YEL/BLACK),+12V3 === 16.0A(YEL/BLUE)
+5Vsb === 3.0A(PURP),-12V === 0.5A(BLUE)
P.G, SIGNAL (GRAY),GROUND (BLACK)

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KEINE SERVICERELEVANTEN BAUTEILE ENTHALTEN.
SERVICEARBEITEN SOLLTEN NUR VON AUTORISIERTEM FACHPERSONAL DURCHFÜHRT WERDEN.



6LL*****GP

Test item particulars:	
Equipment mobility.....:	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition.....:	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	±10
Tested for IT power systems	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V)	230V
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	16 A (13A for UK, 20A North America)
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	Not over 2000m
Altitude of test laboratory (m)	Not over 2000m
Mass of equipment (kg)	1.74kg for FSPxxx-702UH 1.36kg for FSPxxx-701UH
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
Testing:	
Date of receipt of test item	December, 2012
Date(s) of performance of tests.....	December, 2012
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 6.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location 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.....: Yes Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) : 1. ShenZhen HuiLi Electronics CO., LTD.
Block C, Building 4、 6、 7、 8、 9、 10、 11,
County 73, Xin'an, Bao'an, Shenzhen,
Guangdong, P.R. China

2. Zhonghan Electronics (Shenzhen) Co., Ltd.
Building 2,3,4,10, JuYuan Industrial Zone,
TangWei Village, FuYong Town, BaoAn District,
ShenZhen City, P.R. China

3. Wuxi SPI Technology Co., Ltd.
No. 96, XinmeiRoad, New District, Wuxi city,
Jiangsu, P.R. China

4. Wuxi ZhongHan Technology Co., Ltd.
Block 106-D, XinMei Road, Xin District Wuxi
City, Jiangsu, P.R. China

5. ZHONGHAN SCIENCE & TECH CO. LTD
BLD5, JuYuan Industrial, TangWei Village,
FuYong Town, BaoAn, District. ShenZhen City,
P.R. China

General product information:**Product Description**

- The equipment models FSPxxx-701UH, SPIxxxU4BB (xxx=500, 460, 400) and FSPyyy-702UH, SPIyyyW7BB (yyy=500, 600) are building-in type power supply for the use in information technology equipment.
- Model FSPxxx-701UH is similar to model FSPyyy-702UH except for some parts of components rating (fuse, 1Q1, 1Q2, 1Q6, 1Q7, 1C1, 1C8, 1C9), model designation, location of DC fan, DC fan size, power switch location, input/output rating, chassis shape, chassis size and input connection way.
- Models SPIxxxU4BB (xxx=500, 460, 400) and SPIyyyW7BB (yyy=500, 600), which are identical to models FSPxxx-701UH (xxx=500, 460, 400) and FSPyyy-702UH (yyy=500, 600) except for model name and trade mark.
- EUT were comprised four PCBs, one main board (P/N: 3BD0096219GP), HK-BOARD (P/N: 3BS02135168P), CB-BOARD (P/N: 3BS02145138P) and EMI-board (P/N: 3BS0221010GP; optional, when AC inlet on flexible cord used).
- Following constructions are alternative for models FSPxxx-701UH, SPIxxxU4BB (xxx=500, 460, 400)
 - Inlet on flexible cord and EMI board provided (construction A)
 - Small I/O switch located near inlet (construction B)
 - Provided one input flexible cord (exit near output side) for switch used (construction C).
 - Inlet fixed on chassis only (construction D).
- Model FSPyyy-702UH, SPIyyyW7BB (yyy=500, 600) has two different constructions:
 - Small I/O switch located near inlet (construction A)
 - Inlet fixed on chassis only (construction B).
- When switch fixed on flexible cord, for PE wire construction that connection among metal chassis and AC

inlet as ordering as below: 1. Metal chassis 2. Star washer 3. Ring terminal connected to AC inlet 4. Nut 5. Star washer 6. Ring terminal connected to switch wire 7. Nut			
Definition of variable(s):			
Variable:	Range of variable:	Content:	
xxx	400, 460 or 500	For different output power	
yyy	500 or 600	For different output power	
Abbreviations used in the report:			
- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI
Indicate used abbreviations (if any)			

Model name	Input rating	Output rating
FSP600-702UH, SPI600W7BB	100-240V~, 10-5A, 60-50Hz	+3.3V/25A, +5V/25A, +12V1/16A, +12V2/16A, +12V3/16A, +5VSB/3A, -12V/0.5A (+3.3V&+5V=150W max) (+12V1+12V2+12V3 = 48A max) Total power: 600W
FSP500-702UH, SPI500W7BB	100-240V~, 8-4A, 60-50Hz	+3.3V/20A, +5V/20A, +12V1/16A, +12V2/16A, +12V3/16A, +5VSB/3A, -12V/0.5A (+3.3V&+5V=130W max) (+12V1+12V2+12V3 = 39A max) Total power: 500W
FSP500-701UH, SPI500U4BB	100-240V~, 8-4A, 60-50Hz	+3.3V/20A, +5V/20A, +12V1/16A, +12V2/16A, +12V3/16A, +5VSB/3A, -12V/0.5A (+3.3V&+5V=130W max) (+12V1+12V2+12V3 = 39A max) Total power: 500W
FSP460-701UH, SPI460U4BB	100-240V~, 8-4A, 60-50Hz	+3.3V/20A, +5V/20A, +12V1/16A, +12V2/16A, +12V3/16A, +5VSB/3A, -12V/0.5A (+3.3V&+5V=130W max) (+12V1+12V2+12V3 = 35A max) Total power: 460W
FSP400-701UH, SPI400U4BB	100-240V~, 8-4A, 60-50Hz	+3.3V/20A, +5V/20A, +12V1/16A, +12V2/16A, +12V3/16A, +5VSB/3A, -12V/0.5A (+3.3V&+5V=120W max) (+12V1+12V2+12V3 = 30A max) Total power: 400W

Model different list							
Model	DC fan	Chassis	Fuse rating	1C1, 1C8, 1C9 rating	1Q1, 1Q2 rating	1Q6, 1Q7 rating	Bottom mylar dimension
FSP500-702UH SPI500W7BB	7cm DC fan, 40.42CFM one provided	Type A	8A	120-150µF min. 420V min.	600V, 20A min.	600V, 16A min.	Type A

Model	DC fan	Chassis	Fuse rating	1C1, 1C8, 1C9 rating	1Q1, 1Q2 rating	1Q6, 1Q7 rating	Bottom mylar dimension
FSP600-702UH SPI600W7BB	7cm DC fan, 55.02CFM one provided	Type A	10A	120-150 μ F min. 420V min.	600V, 21A min.	600V, 20A min.	Type A
FSP400-701UH SPI400U4BB	4cm DC fan, front side 7.69CFM, rear side 12.18CFM two provided	Type B	8A	100-150 μ F min. 420V min.	600V, 20A min.	600V, 11A min.	Type B
FSP460-701UH SPI460U4BB	4cm DC fan, front side 15.3CFM, rear side 12.18CFM two provided	Type B	8A	120-150 μ F min. 420V min.	600V, 20A min.	600V, 11A min.	Type B
FSP500-701UH SPI500U4BB	4cm DC fan, front side 15.3CFM, rear side 12.18CFM two provided	Type B	8A	120-150 μ F min. 420V min.	600V, 20A min.	600V, 16A min.	Type B

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		
1.5.1	General	See below.	P
	Comply with IEC 60950-1 or relevant component standard	See attachment table 1.5.1.	P
1.5.2	Evaluation and testing of components	Components, which are certified to IEC and/or national standards, are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformers used are suitable for the intended application and comply with the relevant requirements of the standard and particularly with those of Annex C.	P
1.5.5	Interconnecting cables	Interconnection o/p cable to other device is carrying only SELV on an energy level below 240VA. Except for the insulation material, there are no further requirements for the o/p interconnection cable.	P
1.5.6	Capacitors bridging insulation	Capacitors used in accordance with their rating and complied with subclasses of IEC 60384-14 with at least 21 days damp heat test.	P
1.5.7	Resistors bridging insulation	See below.	P
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	The approved bleeder resistor (RX) is located between mains lines and before fuse which resistor as functional insulation and according to IEC 60065 sub-clause 14.1 a) test. See attachment measurement section table 2.10.2.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	Components in equipment for IT power systems	Phase to earth designed in according to phase-to-phase working voltage. The Y2 min. class capacitor used between phase-to-earth is rated accordingly.	P
1.5.9	Surge suppressors	See below.	P
1.5.9.1	General	See Annex Q.	P
1.5.9.2	Protection of VDRs	Certified and suitable rating of varistor (RV1) used. See attachment measurement section table 1.5.1 for details.	P
1.5.9.3	Bridging of functional insulation by a VDR	A varistor (RV1) provided and located after fuse which bridging functional insulation.	P
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

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

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	Marking label was stuck on metal enclosure.	P
1.7.1.1	Power rating marking	See copy of marking plate.	P
	Multiple mains supply connections..... :		N/A
	Rated voltage(s) or voltage range(s) (V) :	See copy of marking plate.	P
	Symbol for nature of supply, for d.c. only..... :		N/A
	Rated frequency or rated frequency range (Hz) ... :	See copy of marking plate.	P
	Rated current (mA or A) :	See copy of marking plate.	P
1.7.1.2	Identification markings	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only		N/A
	Other markings and symbols	Additional symbols or markings do not give rise to misunderstanding.	P
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General	Installation instruction with directions to maintain the requirements of IEC 60950-1 with installation in end product. Included are directions regarding the maximum input rating, output ratings, the maximum ambient temperature for different output power watt safety caution and that the requirements of the IEC 60950-1 must be observed with the installation in end product.	P
1.7.2.2	Disconnect devices	Approved appliance inlet used, Equipment is for building-in. Compliance shall be investigated in the end product.	N/A
1.7.2.3	Overcurrent protective device	Equipment is for building-in. Compliance shall be investigated in the end product.	N/A
1.7.2.4	IT power distribution systems	For Norway compliance has to be evaluated during the national approval.	N/A
1.7.2.5	Operator access with a tool	The equipment is for building-in and shall be evaluated for the final system.	N/A
1.2.7.6	Ozone	The equipment does not produce ozone.	N/A
1.7.3	Short duty cycles	The equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	Full range voltage design, no necessary adjustment.	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No standard power outlets provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	The fuse marking is on PCB near fuse: F1 400/460/500W: T8A/250V 600W: T10A/250V	P
1.7.7	Wiring terminals	See below.	P
1.7.7.1	Protective earthing and bonding terminals	See below.	P
1.7.7.2	Terminals for a.c. mains supply conductors	Appliance inlet used. IEC 60417-5017 marking provide on metal chassis and PCB for identify protective earth.	P
1.7.7.3	Terminals for d.c. mains supply conductors	AC supplied equipment.	N/A
1.7.8	Controls and indicators	See below.	P
1.7.8.1	Identification, location and marking	The marking of the power switch is located that indication of function is clearly.	P
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417.....	Marking for rocker type switch is marked according to IEC 60147-5007 (line for ON) and IEC 60147-5008 (circle for OFF).	P
1.7.8.4	Markings using figures	No figures used.	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	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling or lifting of the label edge.	P
1.7.12	Removable parts	No removable parts provided.	N/A
1.7.13	Replaceable batteries	No batteries provided.	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	Equipment is for building-in. Compliance shall be evaluated for the final system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	The inspection with test pin and test finger should therefore be conducted with the approval of the final system. Installation instruction required, that the requirements of the IEC/EN 60950-1 must be observed to the installation.	N/A
2.1.1.1	Access to energized parts		N/A
	Test by inspection		N/A
	Test with test finger (Figure 2A)		N/A
	Test with test pin (Figure 2B)		N/A
	Test with test probe (Figure 2C)	No TNV circuits within the equipment.	N/A
2.1.1.2	Battery compartments	No battery compartments provided and no TNV circuits within the equipment.	N/A
2.1.1.3	Access to ELV wiring	Refer to subclause 2.1.1.	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	Refer to subclause 2.1.1.	N/A
2.1.1.5	Energy hazards	The output VA is not exceeded 240VA. However the equipment is for building-in, compliance shall be evaluated in the final system. Results see appended table 2.1.1.5.	P
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment	Voltage decay measurement was conducted with an oscilloscope having an input impedance of 100 M Ω .	P
	Measured voltage (V); time-constant (s)	See attachment table 2.1.1.7.	—
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 d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	No such circuits.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.1.2	Protection in service access areas	The equipment is for building-in and shall be evaluated for the final system.	N/A
2.1.3	Protection in restricted access locations	The equipment is for building-in and shall be evaluated for the final system.	N/A

2.2	SELV circuits		P
2.2.1	General requirements	See below, the secondary circuits were tested as SELV.	P
2.2.2	Voltages under normal conditions (V)	42.4Vpeak or 60Vdc are not exceeded between any conductor of the SELV circuits under normal operation. See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V)	See appended table 2.2.2.	P
2.2.4	Connection of SELV circuits to other circuits	See sub-clauses 2.2.2 and 2.2.3.	P

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

2.4	Limited current circuits		P
2.4.1	General requirements	See below.	P
2.4.2	Limit values	0.7mA	P
	Frequency (Hz)	60	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured current (mA)..... :	The peak drop voltage was measured with an oscilloscope at a 2k Ω non-inductive resistor. See attachment measurement section table 2.4.2.	—
	Measured voltage (V)..... :	See attachment measurement section table 2.4.2.	—
	Measured circuit capacitance (nF or μ F) :	See attachment measurement section table 2.4.2.	—
2.4.3	Connection of limited current circuits to other circuits	Output circuit as limited current circuit connected to primary via one bridging capacitor.	P

2.5	Limited power sources		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A) .. :		—
	Use of integrated circuit (IC) current limiters		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	Green/yellow wire is hooked-in and soldered to the PE-pin of the appliance inlet and fixed to the metal chassis by the ring terminal, star washer and screw.	P
2.6.2	Functional earthing	Secondary functional earthing is separated to primary by reinforced or double insulation. No green/yellow wire used for functional earthing.	P
2.6.3	Protective earthing and protective bonding conductors	See below.	P
2.6.3.1	General	Refer to 2.6.3.2, 2.6.3.3 and 2.6.3.4.	P
2.6.3.2	Size of protective earthing conductors	No power cord provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors	Refer to sub-clause 2.6.3.4 for grounding test of protective bonding conductors.	P
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min).....	See appended table 2.6.3.4.	P
2.6.3.5	Colour of insulation	The color combination green-and-yellow is used.	P
2.6.4	Terminals	See below.	P
2.6.4.1	General	See below.	P
2.6.4.2	Protective earthing and bonding terminals	The earthing terminal in the appliance inlet is regarded as the main protective earthing terminal.	P
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Only one protective bonding conductor is provided in the equipment.	P
2.6.5	Integrity of protective earthing	See below.	P
2.6.5.1	Interconnection of equipment	This unit has its own earthing connection. Any other units connected via the DC output connector shall provide SELV only.	N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device provided in earthing conductors and protective bonding conductors.	P
2.6.5.3	Disconnection of protective earth	It is not possible to disconnect earth without disconnecting the mains as an approved appliance inlet is used.	P
2.6.5.4	Parts that can be removed by an operator	The protective earthing connection is made earlier and broken later than the supply connection.	P
2.6.5.5	Parts removed during servicing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.6	Corrosion resistance	No combination above the line in annex J is used.	P
2.6.5.7	Screws for protective bonding	Only ISO thread screw used in metal chassis for protective bonding. Metal thickness at least twice the pitch of the screw. No self-tapping or spaced thread screws.	P
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV circuits.	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on a rated fuse or 16 A (13A for UK, 20A North America) circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short-circuit. Over current protection is provided by the built-in fuse.	P
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	Considered.	P
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	P
2.7.4	Number and location of protective devices	Over current protection by one built-in fuse.	P
2.7.5	Protection by several devices	Only one fuse provided.	N/A
2.7.6	Warning to service personnel	This equipment is for building-in. Compliance shall be evaluated in the final system.	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

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Clause	Requirement + Test	Result - Remark	Verdict
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

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	Tested for 120hrs. (For unit and all sources of transformer)	P
	Relative humidity (%), temperature (°C)	95% R.H., 40°C.	—
2.9.3	Grade of insulation	Basic, supplementary, double insulation, reinforced or functional insulation.	P
2.9.4	Separation from hazardous voltages	See below.	P
	Method(s) used	Method 1.	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below.	P
2.10.1.1	Frequency	The frequency does not exceeding 30kHz.	P
2.10.1.2	Pollution degrees	See Test item particulars	P
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts	Complied.	P
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	See below.	P
2.10.2.1	General	Considered.	P
2.10.2.2	RMS working voltage	See appended table 2.10.2.	P
2.10.2.3	Peak working voltage	See appended table 2.10.2.	P
2.10.3	Clearances	See below.	P
2.10.3.1	General	Annex F is considered.	P
2.10.3.2	Mains transient voltages	See below.	P
	a) AC mains supply	2500 Vpk considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	See appended table 2.10.3 and 2.10.4.	P
2.10.3.4	Clearances in secondary circuits	Sub-clause 5.3.4 considered.	N/A
2.10.3.5	Clearances in circuits having starting pulses	No lamps.	N/A
2.10.3.6	Transients from a.c. mains supply		N/A
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
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	See appended table 2.10.3 and 2.10.4.	P
2.10.4.2	Material group and comparative tracking index	Material group IIIb min. used.	P
	CTI tests	CTI rating for all materials are min. 100.	—
2.10.4.3	Minimum creepage distances	See table 2.10.3 and 2.10.4.	P
2.10.5	Solid insulation	Complied with 2.10.5.2.	P
2.10.5.1	General	See below.	P
2.10.5.2	Distances through insulation	See appended table 2.10.5.	P
2.10.5.3	Insulating compound as solid insulation	Certified sources of photo couplers used. No other components applied for. See sub-clause 2.10.5.2 and 2.10.10.	P
2.10.5.4	Semiconductor devices	For photo couplers see sub-clause 2.10.5.3.	P
2.10.5.5.	Cemented joints	See table 2.10.3 and 2.10.4.	P
2.10.5.6	Thin sheet material – General	Considered.	P
2.10.5.7	Separable thin sheet material	See measurement section tables C.2 and appended table 2.10.3 and 2.10.4 for detail applicable.	P
	Number of layers (pcs)	See above.	—
2.10.5.8	Non-separable thin sheet material	Not applicable.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.9	Thin sheet material – standard test procedure	Not applicable.	N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure	See below.	P
	Electric strength test	See appended table 5.2.	—
2.10.5.11	Insulation in wound components	Certified triple insulated wire used in T2.	P
2.10.5.12	Wire in wound components	See below.	P
	Working voltage	See appended table 2.10.2.	P
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation	Reinforced insulation, 3 layers.	P
	c) Compliance with Annex U	Compliance with Annex U, certified triple insulated wire used	P
	Two wires in contact inside wound component; angle between 45° and 90°	Prevented by tube and tape.	P
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	See below.	P
2.10.6.1	Uncoated printed boards	See appended table 2.10.3 and 2.10.4.	P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations	See appended table 2.10.3 and 2.10.4.	P
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

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling	Certified sources of photo couplers used.	P
2.10.10	Test for Pollution Degree 1 environment and insulating compound	Certified sources of photo couplers used.	P
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Internal wirings are UL recognized wiring which is PVC insulated, rated VW-1, min. 80 °C. The wiring gauges are suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks, which could damage the insulation and cause hazard.	P
3.1.3	Securing of internal wiring	The wires are secured by soldering. Additionally solder-pins was provided so that a loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation materials see sub-clause 3.1.1.	P
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	Screws for PCB to metal chassis were provided spring washers and with at least 2 complete threads into metal chassis.	P
3.1.7	Insulating materials in electrical connections	All connections are metal to metal or, where contact pressure is transmitted through PCB material for earthing purposes a combination of screw, washer and spring-washer is provided.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.8	Self-tapping and spaced thread screws	No self tapping screws are used.	P
3.1.9	Termination of conductors	All conductors are reliably secured by use of solder-pins or glue or other mechanical fixing means.	P
	10 N pull test	10 N pull test performed for all relevant conductors. No hazards caused hereby.	P
3.1.10	Sleeving on wiring	Heat shrinkage tubing for internal wiring provided supplementary insulation that can only be removed by breaking or cutting.	N/A

3.2	Connection to a mains supply		P
3.2.1	Means of connection	See below.	P
3.2.1.1	Connection to an a.c. mains supply	Connection to AC mains with appliance inlet.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Only one mains connection.	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 complied with IEC 60320-1; the connector inserted without difficulty and not supporting the equipment on a flat surface.	P
3.2.5	Power supply cords	No power supply cord provided.	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 or minor dimension D (mm); test mass (g)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Radius of curvature of cord (mm)..... :		—
3.2.9	Supply wiring space		N/A

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 (mm ²)..... :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement	Disconnect device provided.	P
3.4.2	Disconnect devices	Appliance inlet is considered as disconnect device.	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The disconnect device disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices	See below.	N/A
3.4.9	Plugs as disconnect devices	Appliance coupler as disconnect device.	N/A
3.4.10	Interconnected equipment	Interconnection to other equipments via secondary output connectors at SELV.	N/A
3.4.11	Multiple power sources	Single mains supply provided.	N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
3.5.2	Types of interconnection circuits	Interconnection circuits of SELV via secondary output connector.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N/A
3.5.4	Data ports for additional equipment		N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	The equipment is for building-in and shall be evaluated for the final system.	N/A
	Test force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General	See below. After tests, unit complies with the requirements of sub-clause 2.1.1, 2.6.1 and 2.10.	P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	10 N force applied to components and components.	P
4.2.3	Steady force test, 30 N	Applied to the top and side metal chassis. No hazards after the test.	P
4.2.4	Steady force test, 250 N	Applied to the front metal chassis with AC Inlet. No hazards after the test.	P
4.2.5	Impact test	Applied to the front metal chassis for the appliance inlet area. No concave after the test.	P
	Fall test	Applied to the front metal chassis with AC Inlet. No concave after the test.	P
	Swing test	Applied to the front metal chassis with AC Inlet. No concave after the test.	P
4.2.6	Drop test; height (mm)		N/A
4.2.7	Stress relief test	Metal chassis.	N/A
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		P
4.3.1	Edges and corners	Equipment is for building-in and compliance must be evaluated in end product.	N/A
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 connections likely to be exposed to mechanical stress are provided in unit.	P
4.3.5	Connection by plugs and sockets	Mismatching of connectors either not possible or does not result in any hazard.	P
4.3.6	Direct plug-in equipment	The equipment is not direct plug-in equipment.	N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	No heating elements within the equipment.	N/A
4.3.8	Batteries	No batteries provided.	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	Insulation in intended use not considered to be exposed to oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or use powders, liquids and gases in the equipment.	N/A
4.3.11	Containers for liquids or gases	No container for liquids or gases used.	N/A
4.3.12	Flammable liquids	No flammable liquids.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	No radiation.	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser diodes)		—
	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 <i>Secondary DC fan provided which is protected by metal chassis. However, the EUT is for building-in to in compliance with the requirement shall be evaluated in the final system assembly.</i>		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		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	See appended table 4.5.	P
	Normal load condition per Annex L	(See Annex L)	—
4.5.3	Temperature limits for materials	See appended table 4.5.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.4	Touch temperature limits	No operator access areas.	N/A
4.5.5	Resistance to abnormal heat	Phenolic bobbin material used in T1, T2 and T3, which are acceptable without test.	P

4.6	Openings in enclosures <i>The equipment is for building-in. Compliance shall be evaluated after installation into the final system.</i>		N/A
4.6.1	Top and side openings		N/A
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom, dimensions (mm) ..		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	See below.	P
	Method 1, selection and application of components wiring and materials	Use of materials with the required flammability classes.	P
	Method 2, application of all of simulated fault condition tests	Not applied for.	N/A
4.7.2	Conditions for a fire enclosure	See below.	N/A
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: <ul style="list-style-type: none"> ▪ components in primary ▪ components in secondary (not supplied by LPS) ▪ insulated wiring The fire enclosure is required. However, equipment is building-in type SPS and the meeting of the requirements must be observed in end product.	N/A
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	General	See appended table 1.5.1 for PCB material.	P
4.7.3.2	Materials for fire enclosures	Equipment is for building-in, compliance shall be evaluated for the final system.	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are flammability class V-2 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components provided.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.7	P
5.1.2	Configuration of equipment under test (EUT)	See below.	P
5.1.2.1	Single connection to an a.c. mains supply	Treated as a single piece of equipment.	P
5.1.2.2	Redundant multiple connections to an a.c. mains supply	Complied.	P
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Test circuit in Figure 5A used.	P
5.1.4	Application of measuring instrument	Measuring instruments as in annex D used.	P
5.1.5	Test procedure	Applied.	P
5.1.6	Test measurements	See appended table 5.1.6.	P
	Supply voltage (V)	+10% of the rated voltage.	—
	Measured touch current (mA)	See appended table 5.1.6.	—
	Max. allowed touch current (mA)	See appended table 5.1.6.	—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	See appended table 5.2.	P
5.2.2	Test procedure	Table 5B used.	P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	See appended table 5.3.	P
5.3.2	Motors	Approved DC fan used, see appended table 1.5.1 for details.	P
5.3.3	Transformers	With short-circuited and overloaded of the output of transformer, no high temperature of the transformer was recorded. The test results of short-circuited and overloaded see appended table 5.3.	P
5.3.4	Functional insulation	Method c). See appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component provided.	N/A
5.3.6	Audio amplifiers in ITE		N/A
5.3.7	Simulation of faults	See appended table 5.3.	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below.	P
5.3.9.1	During the tests	No fire occurred beyond the equipment, no molten metal emitted and no deformation of enclosure.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.9.2	After the tests	Electric strength test made.	P
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
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
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

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

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position	Refer to appended table 1.5.1	—
	Manufacturer	See above.	—
	Type	See above.	—
	Rated values	See above.	—
	Method of protection	Over current protection by circuit design.	—

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

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Clause	Requirement + Test	Result - Remark	Verdict

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Compliance checked.	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	The equipment is operated according to the most unfavorable way of operation given in the operating instructions.	P

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	Ringling 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)		—

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		P
	a) Preferred climatic categories	Complied. Details see appended table 1.5.1.	P
	b) Maximum continuous voltage	Complied. Details see appended table 1.5.1.	P
	c) Pulse current	Complied.	P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Certified triple insulated wire used. See table 1.5.1.	—

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Clause	Requirement + Test	Result - Remark	Verdict
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction	Considered.	P
V.2	TN power distribution systems	Considered.	P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
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

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Clause	Requirement + Test	Result - Remark	Verdict
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, 250N, 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				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
- Description:	Chassis				
	--	--	Metal, min. 0.8 mm thick	--	--
- Description:	AC Inlet (optional)				
	Rong Feng	SS-7B, SS-120	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Supercom	SC-9	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Solteam	ST-01	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Yue Qing Bei Er Jia	ST-A01 series...	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Canal	KS-series	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	TECX-UNIONS	TU-301-series	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Hua Feng	HF-301	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Inalways	0707-1, 0711	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Singatron	AC-008 A	10A, 250Vac	IEC/EN 60320-1	VDE, UL
	Rich Bay	R-301, R-301 SN	10A, 250Vac	IEC/EN 60320-1	VDE, UL
- Description:	Power Switch (Optional)				
	Jackson	JS-608-R	16A, 250V	IEC/EN 61058-1	TUV, UL
	Rong Feng	RF-1003	10(4)A, 250V	IEC/EN 61058-1	VDE, UL
	Legion	Serie SS21	12A, 250V	IEC/EN 61058-1	VDE, UL
	Solteam	Serie MR-21, OR-L series	6A, 250V(VDE); 10A, 250V(UL)	IEC/EN 61058-1	VDE, UL
	Pronic	R 22	16A, 250V	IEC/EN 61058-1	VDE, UL
	Rong Feng	RF-1004	16A, 250V	IEC/EN 61058-1	VDE, UL
	Canal	MR Series	10(4)A, 250V	IEC/EN 61058-1	VDE, UL
	Zhang Jiagang Hua Feng	HF-606xx	10/6A, 125/250V	IEC/EN 61058-1	VDE, UL
	Canal	MR-2 series	10(4)A, 250V	IEC/EN 61058-1	VDE, UL
	Canal	MR6 series	16(8), 250V	IEC/EN 61058-1	VDE, UL
	Solteam	MR28 series	16(4)A, 250Vac	IEC/EN 61058-1	ENEC 16, UL
- Description:	Rear DC Fan (For model FSP600-702UH, SPI600W7BB)				
	Delta	AFB0712SH	12Vdc, 0.65A, 55.02CFM.	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Power Logic	PLA07025B12HH	12Vdc, 0.36A, 56.128CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	TUV, UL
- Description:	Rear DC Fan (For model FSP500-702UH, SPI500W7BB)				
	Protechnic	MGA7012ZB-O25	12Vdc, 0.43A, 40.42CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA07025B12HH	12Vdc, 0.36A, 45.264CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA07025S12HH	12Vdc, 0.36A, 45.264CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Delta	AFB0712VH	12Vdc, 0.44A, 46.77CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	VDE, UL
- Description:	Front DC Fan (For models FSPxxx-701UH , SPIxxxU4BB, xxx=500, 460)				
	Protechnic	MGA4012YB-O28	12Vdc, 0.38A, 15.39CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGA4012ZB-O28	12Vdc, 0.40A, 17.34CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGT4012ZB-O28	12Vdc, 0.40A, 17.34CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	SANYO	9GV0412G301	12Vdc, 0.47A, 18.361CFM	EN 60950-1:2006+A11 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA04028S12H	12Vdc, 0.6A, 15.46CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA04028B12H	12Vdc, 0.6A, 15.46CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	SUNON	GM1204PQB1-8A	12Vdc, 0.22A, 15.3CFM	EN 60950-1:2006+A11 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	AVC	DB04028B12M-RAR	12Vdc, 0.45A, 15.85CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Delta	FFB0412VHN	12Vdc, 0.16A, 15.79CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	VDE, UL
- Description:	Front DC Fan (Alternate) (For FSP400-701UH, SPI400U4BB only)				
	Protechnic	MGA4012XB-A20	12Vdc, 0.15A, 7.69CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGT4012YB-A20	12Vdc, 0.18A, 9.85CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGA4012YB-A20	12Vdc, 0.18A, 9.85CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGA4012HR-O20	12Vdc, 0.13A, 8.15CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGA4012XR-O20	12Vdc, 0.15A, 9CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGA4012ZB-A20	12Vdc, 0.22A, 9.98CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA04020S12HH-1	12Vdc, 0.18A, 8.235CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA04020B12HH-1	12Vdc, 0.18A, 8.235CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	NMB	1608VL-04W-B59	12Vdc, 0.14A, 8.827CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Delta	EFB0412HHD-08X44	12Vdc, 0.10A, 8.3CFM	EN 60950-1/A12:2011 IEC 60950-1:2005 (2nd Edition)	VDE, UL
- Description:	Rear DC Fan (For models FSPxxx-701UH, SPIxxxU4BB, xxx=500, 460, 400)				
	Protechnic	MGA4012ZB-O15	12Vdc, 0.2A, 12.18CFM. Inward airflow orientation. Secured to rear chassis by screws.	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGT4012ZB-R15	12Vdc, 0.20A, 12.18CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Protechnic	MGA4012ZF-O15	12Vdc, 0.20A, 12.18CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Delta	AFB0412SHB	12Vdc, 0.25A, 13.4CFM	EN 60950-1/A11:2009 IEC 60950-1:2005 (2nd Edition)	VDE, UL
	SUNON	PSD1204PHB1-A	12Vdc, 0.24A, 14CFM	EN 60950-1:2006+A11 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA04015B12HH	12Vdc, 0.21A, 12.472CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
	Power Logic	PLA04015S12HH	12Vdc, 0.21A, 12.472CFM	EN 60950-1/A1:2010 IEC 60950-1:2005 (2nd Edition)	TUV, UL
- Description:	PCB				
	--	--	Min. V-1 or better, min. 105°C	UL 796	UL
- Description:	Fuse (F1) (For FSPxxx-701UH, SPIxxxU4BB, FSP500-702UH, SPI500W7BB, xxx=500, 460, 400)				
	Walter	TSC	T8A, 250Vac	--	UL
	Walter	SCP	T8A, 250Vac	--	UL
	Bussmann Cooper	S505	T8A, 250Vac	--	UL
	Suzhou Littelfuse	215 serie(s)	T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Conquer	UDA-A	T8A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2	VDE, UL
	Conquer	GPA	T8A, 250Vac	--	UL
	Sun	5H, 5HP	T8A, 250Vac	--	UL
	Hollyland	50CT	T8A, 250Vac	--	UL
	Bel	5HTP	T8A, 250Vac	--	UL
- Description:	Fuse (F1) (For FSP600-702UH, SPI600W7BB)				
	Walter	TSC	T10A, 250Vac	--	UL
	Walter	SCP	T10A, 250Vac	--	UL
	Bussmann Cooper	S505	T10A, 250Vac	--	UL
	Suzhou Littelfuse	215 serie(s)	T10A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2	VDE, UL
	Conquer	UDA-A	T10A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2	VDE, UL
	Conquer	GPA	T10A, 250Vac	--	UL
	Sun	5H, 5HP	T10A, 250Vac	--	UL
	Hollyland	50CT	T10A, 250Vac	--	UL
	Bel	5HTP	T10A, 250Vac	--	UL
- Description:	Bleeder Resistor(RX) (On CX or EMI Board)				
	Tzai Yuan	CF	1M Ω , 1/4W	IEC 60065 comply with clausue 14.1 b)	Nemko
	Tai	RD	1M Ω , 1/4W	IEC 60065 comply with clausue 14.1 b)	Nemko
	Pilkor	MSR 37	1M Ω , 1/2W	IEC 60065 comply with clausue 14.1 a)	VDE
	KOA	RCR50EN - Series	1M Ω , 1/2W	IEC 60065 comply with clausue 14.1 a)	VDE
	Uniroyal	MGR0W4JxxxxA 50	1M Ω , 1/4W	IEC 60065 comply with clausue 14.1 a)	VDE
	Uniroyal	MGR0W2JxxxxA 10	1M Ω , 1/2W	IEC 60065 comply with clausue 14.1 a)	VDE
	Uniroyal	MGR01WJxxxxA 10	1M Ω , 1W	IEC 60065 comply with clausue 14.1 a)	VDE
	Uniroyal	MGR02WJxxxxA A0	1M Ω , 2W	IEC 60065 comply with clausue 14.1 a)	VDE

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Yageo	HHV-25	1M Ω , 1/4W	IEC/EN 60065 comply with clausue 14.1 b)	VDE, UL
	Yageo	HHV50S	1M Ω , 1/2W	IEC/EN 60065 comply with clausue 14.1 b)	VDE, UL
	Yageo	HHV-50	1M Ω , 1/2W	IEC/EN 60065 comply with clausue 14.1 b)	VDE, UL
	Yageo	HHV1SS	1M Ω , 1W	IEC/EN 60065 comply with clausue 14.1 b)	VDE, UL
	Yageo	HHV2SS	1M Ω , 2W	IEC/EN 60065 comply with clausue 14.1 b)	VDE, UL
	KOA	RCR 60	1M Ω , 1W	IEC/EN 60065 comply with clausue 14.1 a)	VDE, UL
- Description:	Bleeder Resistors(RX1, RX2)				
	--	--	1M Ω , 1/4W	--	--
- Description:	Y-capacitors (CY1, CY2, CY4, CY5, CY6, CY7) (Optional) (CY1=CY2=max. 2200pF on Main Board) (CY4=CY5=CY6=CY7= max. 4700pF) (CY4, CY5 located on AC inlet, provide when without CY6, CY7) (CY6, CY7 located on EMI board for Provided with Appliance Inlet secured on Internal Inlet wiring)				
	Murata	KH, KX	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Walsin	AC	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Walsin	AH	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	TDK-EPC	CS	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	TDK-EPC	CD	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Success	SE	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Success	SF	Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Arcotronics (or Kemet)	R.41 MKT	Min. 250Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	ENEC 03, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Holy Stone	SDCE series SDCY series	Min. 250V, 125°C	IEC/EN 60384-14/ 2005	TUV, UL
	Success	SB	Max. 2200pF, Min. 250V, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Holy Stone	SDCP series	250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	TÜV, UL
	Murata	KY	Min. 250V, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
- Description:	X-capacitors (CX, CX1, CX2) (Optional) (CX=max. 0.68uF, on Inlet or EMI Board ((Provided with Appliance Inlet secured on Internal Inlet wiring)) (CX1=max. 0.47uF, on Main Board) (CX2=max. 0.22uF, on Main Board)				
	Pilkor	PCX2 335M	275Vac, 105°C	IEC 60384-14 EN 60384-14: 2005	ENEC 14, UL
	Panasonic	ECQUL	275Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Iskra	KNB 1530	300Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Iskra	KNB 1560 KNB 1563 KNB 1562	300Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Vishay	F1772-xxx- 2xxx(R)	275Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Okaya	RE-Series, PA Series	275Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Okaya	LE(-*)	300Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	ENEC 14, UL
	Ultra Tech	HQX	275Vac, 100°C	IEC 60384-14 EN 60384-14:2005	VDE, UL
	Chiefcon	CKX	300Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Hua Jung	MKP	275Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	ENEC 14, UL
	Cheng Tung	CTX	300Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Arcotronics	R.46	300Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	ENEC 03, UL
	Arcotronics	R.49	330Vac, 110°C	IEC 60384-14 EN 60384-14: 2005	ENEC 03, UL
	Carli	MPX	275Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Shiny Space	SX1	300Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	ZhuHai Sung Ho	CMPP	275Vac, 105°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Farad	PXK	275Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Pilkor	PCX2 337	275Vac, 100°C	IEC 60384-14 EN 60384-14: 2005	ENEC 14, UL
- Description:	Varistor (RV1) (optional)				
	Thinking	TVR14471 (for VDE), TVR14D471 (for UL), TVR14471D (for UL), TVR14471-K (for UL)	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Thinking	TVR10471-D, TVR14471-D, TVR10471-V	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Thinking	TVR14511	320Vac, 410Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Centra Science	CNR-14D471K	300Vac, 385Vdc, 85°C	IEC 61051-2 UL1449	VDE, UL
	Thinking	TVR10511-D, TVR14511-D, TVR10511-V	320Vac, 410Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Thinking	TVR14561-D TVR14561	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Thinking	TVR10561 (for VDE) TVR10561-V TVR10561-D	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Walsin	VZ14E471K, SR471K14E	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Walsin	VZ14E511K, SR511K14E	320Vac, 420Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Walsin	VZ14E561K, SR561K14E	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Centra Science	CNR-14D511K	320Vac, 410Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Centra Science	CNR-14D561K	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Ceramate	GNR14D471K	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Ceramate	GNR14D511K	320Vac, 415Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Ceramate	GNR14D561K	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Dongguan Littelfuse	SAS-471KD14, MOV-471KD14	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Dongguan Littelfuse	SAS-511KD14, MOV-511KD14	320Vac, 410Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Dongguan Littelfuse	SAS-561KD14, MOV-561KD14	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Success	SVR14D471K	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Success	SVR14D511K	320Vac, 410Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Success	SVR14D561K	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
	Joyin	14N471K, 14S471K	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Joyin	14N511K, 14S511K	320Vac, 418Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Joyin	14N561K, 14S561K	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Success	SVR10D471Kxxx xH (for VDE), SVR10D471K (for UL), SVR14D471Kxxx xH(for VDE), SVR14D471K (for UL), SVR20D471Kxxx xH (for VDE), SVR20D471K (for UL)	300Vac, 385Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
	Success	SVR10D511Kxxx xH (for VDE), SVR10D511K (for UL), SVR14D511Kxxx xH (for VDE), SVR14D511K (for UL), SVR20D511Kxxx xH (for VDE), SVR20D511K (for UL)	320Vac, 415Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Success	SVR10D561Kxxx xH (for VDE), SVR10D561K (for UL), SVR14D561Kxxx xH (for VDE), SVR14D561K (for UL), SVR20D561Kxxx xH (for VDE), SVR20D561K (for UL)	350Vac, 450Vdc, 85°C	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2-2 UL 1449: SPD type 3 approved	VDE, UL
- Description:	Thermistor (RT1)				
	--	--	Min. 4A, max. 8 Ω at 25°C	--	--
- Description:	Relay (RY1)				
	Tyco	OJE-SS-112HMF	250Vac, 10A	IEC 61810-1: 2003, EN 61810-1: 2004	TUV, UL
	SONG CHUAN	835-1A-F-C	250Vac, 10A	IEC 61810-1: 2008, EN 61810-1: 2009	VDE, UL
	In & Out	GC-DC 12V-A45-S	250Vac, 10A	IEC 61810-1: 2003, EN 61810-1: 2004	VDE, UL
- Description:	Bridging Rectifier (BD1, BD2)				
	--	--	min. 10A, min. 600V	--	--
- Description:	Storage Capacitor (1C1, 1C8, 1C9) (For FSPyyy-702UH, SPIyyyW7BB, yyy=600, 500, FSPxxx-701UH, SPIxxxU4BB, xxx=500, 460)				
	--	--	120-150μF, min. 420V, min. 85°C	--	--
- Description:	Storage Capacitor (1C1, 1C8, 1C9) (For FSP400-701UH, SPI400U4BB)				
	--	--	100-150μF, min. 420V, min. 85°C	--	--
- Description:	Transistors (1Q1, 1Q2) (For FSP600-702UH, SPI600W7BB)				
	--	--	min. 21A, min. 650V	--	--
- Description:	Transistors (1Q1, 1Q2) (For FSP500-702UH, SPI500W7BB, FSPxxx-701UH, SPIxxxU4BB; xxx=400, 460, 500)				
	--	--	min. 20A, min. 600V	--	--

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- Description:	Transistors (1Q6, 1Q7) (For FSP600-702UH, SPI600W7BB)				
	--	--	min. 20A, min. 600V	--	--
- Description:	Transistors (1Q6, 1Q7) (For FSP500-702UH, SPI500W7BB, FSP500-701UH, SPI500U4BB)				
	--	--	min. 16A, min. 600V	--	--
- Description:	Transistors (1Q6, 1Q7) (For FSP460-701UH, FSP400-701UH, SPI460U4BB, SPI400U4BB)				
	--	--	min. 11A, min. 600V	--	--
- Description:	Photo Coupler (2M1, 2M3, 7M1)				
	Sharp	PC123	Dti=0.7mm Int. dcr= 5mm Ext. dcr=8mm, thermal cycling test, 110°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, S, UL
	Lite-On	LTV-817	Dti =0.8mm Int. dcr=5.2mm Ext. dcr=7.8mm, thermal cycling test, 100°C	IEC/EN 60747-5-2 IEC/EN 60950-1	VDE, FI, UL
	Everlight	EL817	Dti=0.5mm Int. dcr=6.0mm Ext. dcr= 7.7mm, thermal cycling test, 110°C	IEC/ EN 60747-5-2 IEC/EN 60950-1	VDE, FI
	Bright Led	BPC-817 A/B/C/D/L BPC-817 S BPC-817 M	Dti=0.4mm Ext. dcr=7.0mm, thermal cycling test, 100°C	IEC/ EN 60747-5-2 IEC/EN 60950-1	VDE, FI
	Cosmo	K1010	Dti=0.6mm Int. dcr=4.0mm Ext. dcr=8.0mm, thermal cycling test, 115°C	IEC/ EN 60747-5-2 IEC/EN 60950-1	VDE, FI
	NEC (Renesas)	PS2561-1, PS2561A-1, PS2561AL-1, PS2561AL1-1, PS2561AL2-1	Dti=0.4mm Ext. dcr= 7.0mm, thermal cycling test, 100°C	IEC/ EN 60747-5-2 IEC/EN 60950-1	VDE, FI
- Description:	Bridging-Capacitor (CY3) (Optional) (Y1 type)				
	Murata	KX	Max. 2200pF, 300Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Walsin	AH	Max. 2200pF, Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	TDK-EPC	CD	Max. 2200pF, Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Success	SE, SB	Max. 2200pF, Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
	Holy Stone	SDCE (Y5U) X4 (10) X5 (3 or 4)	Max. 2200pF, Min. 250Vac, 125°C	IEC 60384-14 EN 60384-14: 2005	VDE, UL
- Description:	Transformer (T1)				
	SPI / FSP	8TG00507	Class B	Applicable part in IEC 60950-1 and evaluated according to IEC 60085	Accepted by TÜV Rheinland
- Description:	Bobbin (T1)				
	CHANG CHUN PLASTICS CO LTD	T375J	V-0 ,150°C	UL 94	UL
- Description:	Mylar Tape of transformer (T1)				
	3M COMPANY	#1350F-1	130°C	UL 510	UL
- Description:	Margin Tape of transformer (T1)				
	3M Company	44	130°C	UL 510	UL
- Description:	Transformer (T2)				
	SPI / FSP	8TA00315	Class B	Applicable part in IEC 60950-1 and evaluated according to IEC 60085	Accepted by TÜV Rheinland
- Description:	Bobbin (T2)				
	CHANG CHUN PLASTICS CO LTD	T375J	V-0 ,150°C	UL 94	UL
- Description:	Mylar Tape of transformer (T2)				
	3M COMPANY	#1350F-1	130°C	UL 510	UL
- Description:	Mylar Tape of transformer (T2)				
	BONDTEC PACIFIC CO LTD	371F	130°C	UL 510	UL
- Description:	Triple insulated Wire (T2)				
	Great Leoflon	TRW(B)	130°C	IEC/EN 60950-1	VDE , UL
- Description:	Choke (L1) (optional)				
	SPI / FSP	8LM02375	105°C	--	--
- Description:	Choke (L2) (optional)				

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	SPI / FSP	8LM02488	105°C	--	--
- Description:	Choke (L3) (optional)				
	SPI / FSP	8LM02595	105°C	--	--
- Description:	PFC Choke (1L1)				
	SPI / FSP	8LA00261	120°C	--	--
- Description:	Choke (T3)				
	SPI / FSP	8TA00353	105°C	--	--
- Description:	Thermistors (HTH1, HTH2)				
	--	--	Min. 0.02A, 10kΩ at 25°C	--	--
- Description:	Mylar Sheet				
	--	--	Min. V-2, min. 105°C, min. 0.2 mm thickness.	UL 94	UL
Supplementary information:					
1. Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2. For photocoupler, Dti = inside distance through insulation, Int dcr = internal creepage distance, Ext dcr = external creepage distance.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer	See table 1.5.1 for details	
Type.....	See table 1.5.1 for details	
Separately tested.....	See table 1.5.1 for details	
Bridging insulation	Reinforced	
External creepage distance	See table 1.5.1 for details	
Internal creepage distance	See table 1.5.1 for details	
Distance through insulation	See table 1.5.1 for details	
Tested under the following conditions	RI	
Input.....	--	
Output.....	--	
supplementary information		

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)/ Freq (Hz)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
Model: FSP400-701UH						
90/50	5.43	--	488	F1	5.43	Max. normal load condition A
100/50	4.85	8	485	F1	4.85	Max. normal load condition A
240/50	1.98	4	469	F1	1.98	Max. normal load condition A
254/50	1.88	--	468	F1	1.88	Max. normal load condition A
264/50	1.81	--	468	F1	1.81	Max. normal load condition A
90/60	5.44	--	489	F1	5.44	Max. normal load condition A
100/60	4.86	8	486	F1	4.86	Max. normal load condition A
240/60	1.98	4	468	F1	1.98	Max. normal load condition A
254/60	1.88	--	468	F1	1.88	Max. normal load condition A
264/60	1.81	--	468	F1	1.81	Max. normal load condition A
90/50	5.38	--	484	F1	5.38	Max. normal load condition B
100/50	4.81	8	481	F1	4.81	Max. normal load condition B
240/50	1.96	4	465	F1	1.96	Max. normal load condition B
254/50	1.86	--	464	F1	1.86	Max. normal load condition B
264/50	1.79	--	463	F1	1.79	Max. normal load condition B
90/60	5.39	--	485	F1	5.39	Max. normal load condition B
100/60	4.82	8	482	F1	4.82	Max. normal load condition B
240/60	1.96	4	465	F1	1.96	Max. normal load condition B
254/60	1.86	--	464	F1	1.86	Max. normal load condition B
264/60	1.79	--	463	F1	1.79	Max. normal load condition B
90/50	5.17	--	465	F1	5.17	Max. normal load condition C
100/50	4.63	8	463	F1	4.63	Max. normal load condition C
240/50	1.89	4	447	F1	1.89	Max. normal load condition C
254/50	1.79	--	446	F1	1.79	Max. normal load condition C
264/50	1.73	--	445	F1	1.73	Max. normal load condition C
90/60	5.18	--	466	F1	5.18	Max. normal load condition C
100/60	4.64	8	464	F1	4.64	Max. normal load condition C
240/60	1.89	4	447	F1	1.89	Max. normal load condition C
254/60	1.79	--	446	F1	1.79	Max. normal load condition C
264/60	1.73	--	445	F1	1.73	Max. normal load condition C
Model: FSP460-701UH						
90/50	6.31	--	568	F1	6.31	Max. normal load condition A
100/50	5.62	8	562	F1	5.62	Max. normal load condition A

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Clause	Requirement + Test				Result - Remark	Verdict
240/50	2.29	4	543	F1	2.29	Max. normal load condition A
254/50	2.17	--	541	F1	2.17	Max. normal load condition A
264/50	2.09	--	541	F1	2.09	Max. normal load condition A
90/60	6.31	--	567	F1	6.31	Max. normal load condition A
100/60	5.62	8	562	F1	5.62	Max. normal load condition A
240/60	2.29	4	543	F1	2.29	Max. normal load condition A
254/60	2.17	--	542	F1	2.17	Max. normal load condition A
264/60	2.09	--	541	F1	2.09	Max. normal load condition A
90/50	6.28	--	565	F1	6.28	Max. normal load condition B
100/50	5.59	8	559	F1	5.59	Max. normal load condition B
240/50	2.28	4	540	F1	2.28	Max. normal load condition B
254/50	2.16	--	539	F1	2.16	Max. normal load condition B
264/50	2.08	--	538	F1	2.08	Max. normal load condition B
90/60	6.29	--	566	F1	6.29	Max. normal load condition B
100/60	5.59	8	559	F1	5.59	Max. normal load condition B
240/60	2.28	4	539	F1	2.28	Max. normal load condition B
254/60	2.16	--	539	F1	2.16	Max. normal load condition B
264/60	2.08	--	539	F1	2.08	Max. normal load condition B
90/50	6.00	--	540	F1	6.00	Max. normal load condition C
100/50	5.35	8	535	F1	5.35	Max. normal load condition C
240/50	2.17	4	517	F1	2.17	Max. normal load condition C
254/50	2.07	--	516	F1	2.07	Max. normal load condition C
264/50	1.99	--	516	F1	1.99	Max. normal load condition C
90/60	6.00	--	540	F1	6.00	Max. normal load condition C
100/60	5.35	8	535	F1	5.35	Max. normal load condition C
240/60	2.18	4	517	F1	2.18	Max. normal load condition C
254/60	2.07	--	516	F1	2.07	Max. normal load condition C
264/60	1.99	--	516	F1	1.99	Max. normal load condition C
Model: FSP500-702UH						
90/50	6.86	--	617	F1	6.86	Max. normal load condition A
100/50	6.09	8	609	F1	6.09	Max. normal load condition A
240/50	2.46	4	587	F1	2.46	Max. normal load condition A
254/50	2.33	--	586	F1	2.33	Max. normal load condition A
264/50	2.24	--	585	F1	2.24	Max. normal load condition A
90/60	6.86	--	617	F1	6.86	Max. normal load condition A
100/60	6.09	8	609	F1	6.09	Max. normal load condition A
240/60	2.46	4	587	F1	2.46	Max. normal load condition A

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Clause	Requirement + Test				Result - Remark	Verdict
254/60	2.33	--	586	F1	2.33	Max. normal load condition A
264/60	2.24	--	585	F1	2.24	Max. normal load condition A
90/50	6.82	--	613	F1	6.82	Max. normal load condition B
100/50	6.07	8	607	F1	6.07	Max. normal load condition B
240/50	2.45	4	584	F1	2.45	Max. normal load condition B
254/50	2.32	--	583	F1	2.32	Max. normal load condition B
264/50	2.23	--	583	F1	2.23	Max. normal load condition B
90/60	6.83	--	614	F1	6.83	Max. normal load condition B
100/60	6.08	8	608	F1	6.08	Max. normal load condition B
240/60	2.45	4	584	F1	2.45	Max. normal load condition B
254/60	2.32	--	583	F1	2.32	Max. normal load condition B
264/60	2.23	--	583	F1	2.23	Max. normal load condition B
90/50	6.47	--	582	F1	6.47	Max. normal load condition C
100/50	5.76	8	576	F1	5.76	Max. normal load condition C
240/50	2.33	4	556	F1	2.33	Max. normal load condition C
254/50	2.21	--	555	F1	2.21	Max. normal load condition C
264/50	2.12	--	555	F1	2.12	Max. normal load condition C
90/60	6.48	--	583	F1	6.48	Max. normal load condition C
100/60	5.77	8	577	F1	5.77	Max. normal load condition C
240/60	2.34	4	557	F1	2.34	Max. normal load condition C
254/60	2.21	--	555	F1	2.21	Max. normal load condition C
264/60	2.13	--	555	F1	2.13	Max. normal load condition C
Model: FSP600-702UH						
90/50	8.92	--	787	F1	8.92	Max. normal load condition A
100/50	8.22	10	776	F1	8.22	Max. normal load condition A
240/50	2.96	5	707	F1	2.96	Max. normal load condition A
254/50	2.80	--	706	F1	2.80	Max. normal load condition A
264/50	2.69	--	705	F1	2.69	Max. normal load condition A
90/60	8.92	--	787	F1	8.92	Max. normal load condition A
100/60	8.22	10	776	F1	8.22	Max. normal load condition A
240/60	2.96	5	707	F1	2.96	Max. normal load condition A
254/60	2.80	--	705	F1	2.80	Max. normal load condition A
264/60	2.69	--	705	F1	2.69	Max. normal load condition A
90/50	8.83	--	780	F1	8.83	Max. normal load condition B
100/50	8.06	10	773	F1	8.06	Max. normal load condition B
240/50	2.95	5	705	F1	2.95	Max. normal load condition B
254/50	2.79	--	703	F1	2.79	Max. normal load condition B

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Clause	Requirement + Test				Result - Remark	Verdict
264/50	2.68	--	703	F1	2.68	Max. normal load condition B
90/60	8.84	--	781	F1	8.84	Max. normal load condition B
100/60	8.07	10	774	F1	8.07	Max. normal load condition B
240/60	2.95	5	705	F1	2.95	Max. normal load condition B
254/60	2.79	--	703	F1	2.79	Max. normal load condition B
264/60	2.68	--	703	F1	2.68	Max. normal load condition B
90/50	8.53	--	725	F1	8.53	Max. normal load condition C
100/50	7.84	10	715	F1	7.84	Max. normal load condition C
240/50	2.78	5	665	F1	2.78	Max. normal load condition C
254/50	2.63	--	663	F1	2.63	Max. normal load condition C
264/50	2.53	--	663	F1	2.53	Max. normal load condition C
90/60	8.53	--	726	F1	8.53	Max. normal load condition C
100/60	7.84	10	719	F1	7.84	Max. normal load condition C
240/60	2.78	5	665	F1	2.78	Max. normal load condition C
254/60	2.63	--	663	F1	2.63	Max. normal load condition C
264/60	2.53	--	663	F1	2.53	Max. normal load condition C

Supplementary information:

Model FSP400-701UH

Condition A: +3.3V/ 20A, +5V/ 10.8A, +12V1/ 16A, +12V2/ 5.6A, +12V3/ 0A, -12V/ 0.5A, +5Vsb/ 3A

Condition B: +3.3V/ 6.1A, +5V/ 20A, +12V1/ 16A, +12V2/ 5.6A, +12V3/ 0A, -12V/ 0.5A, +5Vsb/ 3A

Condition C: +3.3V/ 4.3A, +5V/ 1A, +12V1/ 0A, +12V2/ 14A, +12V3/ 16A, -12V/ 0.5A, +5Vsb/ 3A

Model FSP460-701UH

Condition A: +3.3V/ 20A, +5V/ 12.8A, +12V1/ 16A, +12V2/ 9.8A, +12V3/ 0A, -12V/ 0.5A, +5Vsb/ 3A

Condition B: +3.3V/ 9.1A, +5V/ 20A, +12V1/ 16A, +12V2/ 9.8A, +12V3/ 0A, -12V/ 0.5A, +5Vsb/ 3A

Condition C: +3.3V/ 4.3A, +5V/ 1A, +12V1/ 3A, +12V2/ 16A, +12V3/ 16A, -12V/ 0.5A, +5Vsb/ 3A

Model FSP500-701UH, FSP500-702UH

Condition A: +3.3V/ 20A, +5V/ 12.8A, +12V1/ 16A, +12V2/ 13.1A, +12V3/ 0A, -12V/ 0.5A, +5Vsb/ 3A

Condition B: +3.3V/ 9.1A, +5V/ 20A, +12V1/ 16A, +12V2/ 13.1A, +12V3/ 0A, -12V/ 0.5A, +5Vsb/ 3A

Condition C: +3.3V/ 1.9A, +5V/ 1A, +12V1/ 7A, +12V2/ 16A, +12V3/ 16A, -12V/ 0.5A, +5Vsb/ 3A

Model FSP600-702UH

Condition A: +3.3V/ 25A, +5V/ 13.5A, +12V1/ 16A, +12V2/ 16A, +12V3/ 3.8A, -12V/ 0.5A, +5Vsb/ 3A

Condition B: +3.3V/ 7.6A, +5V/ 25A, +12V1/ 16A, +12V2/ 16A, +12V3/ 3.8A, -12V/ 0.5A, +5Vsb/ 3A

Condition C: +3.3V/ 0A, +5V/ 1A, +12V1/ 16A, +12V2/ 16A, +12V3/ 16A, -12V/ 0.5A, +5Vsb/ 3A

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Model FSP600-702UH					
+3.3V	25	3.51	34.8	91	

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
+5V	25	5.21	28.3	118	
+12V1	16	13.1	18.9	215	
+12V2	16	13.0	19.2	217	
+12V3	16	13.0	19.5	228	
+5Vsb	3	5.05	3.4	16.8	
-12V	0.5	-12.15	16.3	80.0	
supplementary information:					
Test voltage: 240V, 60Hz					

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

2.2	TABLE: evaluation of voltage limiting components in SELV circuits	P	
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
T1 Pin 9,10,11,12 - RTN	20	--	--
T1 Pin 15,16 – RTN	48	--	--
D501 -RTN	48	--	--
L601	--	14.8	L601
T2 Pin 10 – RTN	32	--	--
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
L601 pin 1 – 2 shorted.	0 (Locateion at +12V1 to RTN)		
L601 pin 1 – 2 shorted.	0 (Locateion at +12V1 to RTN)		
L601 pin 1 – 2 shorted.	0 (Locateion at +12V1 to RTN)		
supplementary information:			
Supplementary information:			
Test voltage: 240V, 60Hz			

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
2.5	TABLE: Limited power sources					N/A
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
supplementary information:						

2.10.2	Table: working voltage measurement				P
Location	RMS voltage (V)	Peak voltage (V)	Comments		
T1 pin 1 – 9,10,11,12	215	384			
T1 pin 1-15,16	222	408	Highest Vpk and Vrms in T1		
T1 pin 1 – T1-G	202	376			
T1 pin 4 – 9,10,11,12	196	360			
T1 pin 4-15,16	184	344			
T1 pin 4 – T1-G	200	376			
T1 pin 7 – 9,10,11,12	172	368			
T1 pin 7-15,16	174	384			
T1 pin 7 – T1-G	171	352			
T1 pin 8 – 9,10,11,12	171	360			
T1 pin 8-15,16	171	368			
T1 pin 8 – T1-G	171	376			
T2 pin 1 – 8,RTN	341	528	Highest Vpk and Vrms in T2		
T2 pin 1– 10	334	528			
T2 pin 2 – 8,RTN	307	400			
T2 pin 2– 10	308	416			
T2 pin 4 – 8,RTN	175	408			
T2 pin 4– 10	171	400			
T2 pin 5 – 8,RTN	166	352			
T2 pin 5– 10	172	360			
2M1 pin 3-1	161	336			
2M1 pin 3-2	162	336			
2M1 pin 4-1	161	336			
2M1 pin 4-2	162	336			
7M1 pin 3-1	174	352			

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
7M1 pin 3-2	174	352	
7M1 pin 4-1	175	352	
7M1 pin 4-2	175	352	
2M3 pin 3-1	174	352	
2M3 pin 3-2	174	352	
2M3 pin 4-1	174	352	
2M3 pin 4-2	174	352	
CY3 pin Pri-Sec	172	352	
supplementary information:			
Supply voltage: 240V, 60Hz			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
For all models							
Functional:							
L/N before fuse (top / trace side)	420	250	1.5	3.0 / 3.0	2.5	3.0 / 3.0	
Trace under fuse (top / trace side)	420	250	1.5	23.4 / 21.4	2.5	23.4 / 21.4	
Basic / supplementary:							
Primary components (with 10N) to metal chassis (Earth)	420	250	2.0	See below	2.5	See below	
HS1 near 1Q2 to screw (PE)				2.5		3.9	
HS3 to screw (PE)				4.3		4.3	
Primary trace to earthed trace	420	250	2.0	See below	2.5	See below	
Trace under CY1, CY2 (top / trace side)				5.2 / 4.6		5.2 / 4.6	
HS4 trace to CY1, CY2 RTN (top / trace side)				3.1 / 2.8		5.4 / 4.7	
Reinforced:							
Primary components (with 10N) to secondary components (with 10N)	420	250	4.0	See below	5.0	See below	
T2 core to HS5				6.8		6.8	

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
Primary trace to secondary trace	420	250	4.0	See below	5.0	See below
HS1 trace to Q602 trace (top / trace side)				7.7 / 7.7		7.7 / 7.7
- Under CY3 (top / trace side)				7.7 / 7.7		7.7 / 7.7
- Under 2M1, 2M3, 7M1				8.0 / 8.0		8.0 / 8.0
Under T1 (top / trace side)	420	250	4.0	8.0 / 8.3	5.0	8.0 / 8.3
- Under T2 (top / trace side)	528	341	4.4	7.6 / 9.0	7.2	7.6 / 9.0
For Model: FSPxxx-701UH						
Functional:						
When EMI board (P/N: 3BS0221010GP REV: 1) provided						
L/N before fuse	420	250	1.5	7.3	2.5	7.3
Under CY6, CY7	420	250	1.5	4.0	2.5	4.0
Supplementary information:						
For all models:						
1. Function insulation shorted, see 5.3.4.						
2. Glued components: X-Cap on inlet, 1L1, 2C1, 2C8.						
3. Tubed components: DC fan wire, fuse body, L5, wire of HTH1/HTH2.						
4. All primary and secondary wires are fixed in position reliably by soldering, cable tie and mechanical cramp terminal or glue.						
5. One cut groove (1.0mm width) between 1Q2 and screw.						
6. One cut groove (1.0mm width) between HS4 and screw.						
7. One cut groove (2.0mm width) between 1Q7 and HS2.						
8. One cut groove (1.0mm width) between 2D2 and 2M3 Sec. trace.						
9. One mylar sheet (20mm x 25mm) between T2 and HS5.						
For models FSPxxx-701UH						
10. One mylar sheet (max. dimension: 185 mm x 97mm) was fixed on top metal chassis.						
11. One mylar sheet (max. dimension: 179 mm x 185mm) was fixed on bottom metal chassis between traces side of main board and overlapping 25mm on both side and overlapping 10mm on top side of enclosure.						
For models FSPxxx-702UH						
12. One mylar sheet (max. dimension: 125 mm x 117mm) was fixed on top metal chassis and overlapping 20mm on HS1 side.						
13. One mylar sheet (max. dimension: 179 mm x 205mm) was fixed on bottom metal chassis between traces side of main board and overlapping 65mm on HS1 side and overlapping 35mm on T2 side.						
2.10.5	TABLE: Distance through insulation measurements					P

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Clause	Requirement + Test			Result - Remark	Verdict
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Optical isolators (reinforced insulation)	420	250	AC 3000	1.	1.
Mylar sheet (supplementary insulation)	420	250	AC 3000	1.	1.
Heat shrinkage tubing on internal wire (supplementary insulation)	420	250	AC 3000	0.4	0.4
Supplementary information:					
1. See appended table 1.5.1 for details of distance through insulation.					

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

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Clause	Requirement + Test	Result - Remark	Verdict
Capacity.....			
Tested and Certified by (incl. Ref. No.)			
Circuit protection diagram:			
MARKINGS AND INSTRUCTIONS (1.7.13)			
Location of replaceable battery			
Language(s)			
Close to the battery			
In the servicing instructions			
In the operating instructions			

4.5	TABLE: Thermal requirements					P
	Supply voltage (V)	See below.				—
	Ambient T _{min} (°C)	--	--	--	--	—
	Ambient T _{max} (°C)	--	--	--	--	—
Maximum measured temperature T of part/at		T (°C)				Allowed T _{max} (°C)
Model: FSP400-701UH						
Test voltage (Vac)		90	264	--	--	--
Test conditions		A	A	--	--	--
Inlet pin		57.5	55.5	--	--	70
Input wire		61.3	58.2	--	--	80
Y Cap (CY4 body on Inlet)		63.3	60.5	--	--	110
X Cap (CX body on Inlet)		58.3	57.6	--	--	100
L1 coil		69.1	58.3	--	--	105
L2 coil		65.3	57.5	--	--	105
L3 coil		76.5	63.6	--	--	105
RV1 body (varistor)		65.1	57.6	--	--	85
CX1 body		58.8	58.4	--	--	100
CX2 body		73.4	65.4	--	--	100
PCB under RT1		64.6	61.4	--	--	105
CY1 body		61.1	60.8	--	--	110
RY1 body		71.8	71.3	--	--	105
PCB under BD1		78.4	65.9	--	--	105
1L1 coil		93.0	77.3	--	--	120
1C1 body		73.7	72.9	--	--	85
HS1 body near 1Q7 (touch PCB)		75.2	71.9	--	--	105
T1 primary side coil		88.8	88.8	--	--	110

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Clause	Requirement + Test		Result - Remark			Verdict
T1 secondary side coil	87.5	87.3	--	--	--	110
T1 core	81.9	81.6	--	--	--	110
T3 coil	76.7	76.2	--	--	--	105
2M1 body	78.6	78.7	--	--	--	100
T2 primary side coil	68.8	68.7	--	--	--	110
T2 secondary side coil	72.0	71.9	--	--	--	110
T2 core	67.6	67.4	--	--	--	110
HS4 body near 2M2 (touch PCB)	66.8	66.7	--	--	--	105
CY3 body	71.4	70.7	--	--	--	110
L601 coil	59.6	59.8	--	--	--	105
L302 coil	56.0	56.3	--	--	--	105
L301 coil	65.1	65.3	--	--	--	105
HS2 body near Q602 (touch PCB)	73.0	72.9	--	--	--	105
Metal enclosure	57.2	57.1	--	--	--	70
Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =50.3/ 50.4°C	50	50	--	--	--	--
Model: FSP460-701UH						
Test voltage (Vac)	90	264	--	--	--	--
Test conditions	A	A	--	--	--	--
HS body near 1Q6 (touch PCB)	84.2	77.9	--	--	--	105
Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =50.2/ 50.1°C	50	50	--	--	--	--
Model: FSP500-701UH						
Test voltage (Vac)	90	90	90	264	--	--
Test conditions	A	B	C	A	--	--
Inlet pin	52.4	52.3	52.6	51.7	--	70
Input wire	62.2	61.8	61.3	56.3	--	80
Y Cap (CY4 body on Inlet)	57.9	57.7	57.5	55.3	--	85
X Cap (CX body on Inlet)	58.0	57.7	57.6	56.6	--	85
L1 coil	66.4	65.8	65.0	57.4	--	105
L2 coil	64.6	64.1	63.5	58.1	--	105
L3 coil	73.1	72.4	71.5	62.3	--	105
RV1 body (varistor)	63.4	62.8	62.2	57.3	--	85
CX1 body	61.9	61.2	61.1	61.6	--	85
CX2 body	75.7	74.8	74.1	64.8	--	85
PCB under RT1	65.0	64.6	64.3	62.8	--	105
CY1 body	64.9	64.5	64.3	64.7	--	85

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Clause	Requirement + Test	Result - Remark				Verdict	
	RX1 body	78.5	77.9	78.2	77.9	--	105
	PCB under BD1	82.8	82.0	81.1	66.7	--	105
	1L1 coil	100.6	99.0	97.3	78.0	--	120
	1C1 body	72.1	71.5	71.9	71.1	--	85
	HS1 body near 1Q7 (touch PCB)	83.0	81.3	79.7	77.0	--	105
	T1 primary side coil	96.6	95.5	96.9	96.3	--	110
	T1 secondary side coil	88.6	87.8	88.9	88.1	--	110
	T1 core	76.1	75.5	76.1	75.8	--	110
	T3 coil	81.8	80.6	81.3	80.6	--	105
	2M1 body	83.2	82.1	82.6	82.6	--	100
	T2 primary side coil	70.3	69.7	69.5	70.4	--	110
	T2 secondary side coil	66.2	65.7	65.3	66.5	--	110
	T2 core	63.4	62.6	62.5	63.6	--	110
	HS4 body near 2M2 (touch PCB)	65.7	65.2	65.3	65.7	--	105
	CY3 body	74.7	73.4	74.6	73.7	--	85
	L601 coil	64.2	64.8	67.5	64.1	--	105
	L302 coil	57.2	53.7	53.0	57.0	--	105
	L301 coil	66.2	62.3	59.4	65.7	--	105
	HS2 body near Q602 (touch PCB)	88.3	87.3	90.0	87.4	--	105
	Metal enclosure	56.9	56.4	56.5	56.6	--	70
	Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =50.1/ 50.0/ 50.0/ 50.1°C	50	50	50	50	--	--
	Test voltage (Vac)	90	264	--	--	--	--
	Test conditions (standby mode only)	--	--	--	--	--	--
	T1 coil	62.2	60.8	--	--	--	110
	T2 coil	101.8	98.9	--	--	--	110
	2M1 body	66.3	65.0	--	--	--	100
	Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =26.1/ 26.3°C	50	50	--	--	--	--
Model: FSP500-702UH							
	Test voltage (Vac)	90	90	90	264	--	--
	Test conditions	A	B	C	A	--	--
	Inlet pin	54.8	54.7	54.1	53.4	--	70
	Input wire	58.5	58.2	57.5	56.0	--	80
	Y Cap (CY4 body on Inlet)	54.8	54.6	54.1	54.0	--	85
	X Cap (CX body on Inlet)	54.2	53.9	53.5	54.0	--	85
	L1 coil	71.8	71.2	69.8	58.4	--	105

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Clause	Requirement + Test				Result - Remark	Verdict
L2 coil	77.1	76.4	74.8	59.6	--	105
L3 coil	67.7	67.2	66.1	56.7	--	105
RV1 body (varistor)	67.0	66.5	65.5	58.5	--	85
CX1 body	64.3	63.8	63.2	63.4	--	85
CX2 body	67.1	66.6	65.6	57.6	--	85
PCB under RT1	66.2	65.6	65.3	61.0	--	105
CY1 body	64.3	63.8	63.5	63.8	--	85
RY1 body	71.2	70.7	70.7	70.7	--	105
PCB under BD1	75.7	74.9	74.1	60.9	--	105
1L1 coil	100.5	99.2	97.7	71.9	--	120
1C1 body	58.3	57.9	57.6	57.8	--	85
HS1 body near 1Q7 (touch PCB)	71.9	70.7	70.6	67.9	--	105
T1 primary side coil	85.0	83.9	84.1	85.7	--	110
T1 secondary side coil	85.6	84.6	84.8	86.5	--	110
T1 core	73.4	72.6	72.5	73.6	--	110
T3 coil	70.1	69.2	69.3	69.2	--	105
2M1 body	74.8	73.9	73.3	75.1	--	100
T2 primary side coil	72.8	72.6	71.8	72.9	--	110
T2 secondary side coil	71.3	71.1	70.2	71.4	--	110
T2 core	65.9	65.7	64.7	66.0	--	110
HS4 body near 2M2 (touch PCB)	67.2	66.8	66.3	67.3	--	105
CY3 body	66.5	65.6	67.0	65.2	--	85
L601 coil	61.3	62.0	64.7	62.3	--	105
L302 coil	55.1	52.4	51.3	53.2	--	105
L301 coil	56.9	55.0	53.2	55.7	--	105
HS2 body near Q602 (touch PCB)	76.6	75.8	78.2	77.1	--	105
Metal enclosure	51.9	51.7	51.6	51.9	--	70
Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =50.2/ 49.9/ 50.0/ 50.5°C	50	50	50	50	--	--
Model: FSP600-702UH						
Test voltage (Vac)	90	90	90	264	--	--
Test conditions	A	B	C	A	--	--
Inlet pin	55.0	54.8	53.9	53.3	--	70
Input wire	55.6	55.4	54.4	54.2	--	80
Y Cap (CY4 body on Inlet)	54.4	54.1	53.2	53.1	--	85
X Cap (CX body on Inlet)	68.1	67.7	66.0	58.9	--	85
L1 coil	64.7	64.4	61.0	55.4	--	105

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Clause	Requirement + Test		Result - Remark			Verdict
L2 coil	82.2	82.0	73.5	58.7	--	105
L3 coil	68.9	68.5	64.2	56.4	--	105
RV1 body (varistor)	77.7	77.3	70.0	57.0	--	85
CX1 body	58.6	58.6	57.6	57.3	--	85
CX2 body	70.0	69.7	66.3	58.5	--	85
PCB under RT1	65.1	65.0	62.9	58.6	--	105
CY1 body	57.3	57.4	56.7	56.5	--	85
RY1 body	54.0	53.8	53.2	53.8	--	105
PCB under BD1	80.1	79.6	73.2	58.9	--	105
1L1 coil	107.4	105.9	96.8	70.3	--	120
1C1 body	57.5	57.1	56.5	56.9	--	85
HS1 body near 1Q7 (touch PCB)	60.8	59.5	58.1	58.4	--	105
T1 primary side coil	95.9	94.8	95.1	95.3	--	110
T1 secondary side coil	85.7	84.6	84.8	84.9	--	110
T1 core	65.8	65.0	64.9	64.7	--	110
T3 coil	80.2	79.3	79.5	78.8	--	105
2M1 body	75.5	75.1	75.7	75.0	--	100
T2 primary side coil	63.8	64.2	63.5	63.6	--	110
T2 secondary side coil	55.2	55.1	54.5	55.0	--	110
T2 core	60.2	60.0	59.6	59.8	--	110
HS4 body near 2M2 (touch PCB)	60.2	60.1	60.0	59.8	--	105
CY3 body	65.7	64.4	64.4	64.8	--	85
L601 coil	63.9	65.2	68.6	63.8	--	105
L302 coil	57.6	52.9	52.0	57.4	--	105
L301 coil	58.4	55.2	54.7	58.2	--	105
HS2 body near Q602 (touch PCB)	66.4	65.3	64.8	65.5	--	105
Metal enclosure	51.4	51.0	50.7	50.8	--	70
Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =50.5/ 50.2/ 50.0/ 50.1°C	50	50	50	50	--	--
Test voltage (Vac)	90	264	--	--	--	--
Test conditions (standby mode only)	--	--	--	--	--	--
T1 coil	53.9	53.2	--	--	--	110
T2 coil	94.8	91.7	--	--	--	110
2M1 body	58.0	56.8	--	--	--	100
Ambient Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =25.1/ 26.1°C	50	50	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

- The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as above.
- With a specified maximum ambient temperature and test temperature of 50°C, the maximum permitted temperatures are calculated as follows:
Winding components (providing safety isolation):
- Class B $T_{max} = 120^{\circ}\text{C} - 10^{\circ}\text{C} = 110^{\circ}\text{C}$
- During tests, the minimum air flow DC fan is installed in the equipment.

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

Supplementary information:

4.5.5	TABLE: Ball pressure test of thermoplastic parts	N/A
	Allowed impression diameter (mm): ≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)

Supplementary information:
Phenolic bobbin material used for T1, T2, T3 accepted without test at test temperatures not exceeding 125°C.

4.7	TABLE: Resistance to fire	P			
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence

Supplementary information:
1. See appended table 1.5.1.

5.1	TABLE: touch current measurement	P	
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
Line / Neutral to metal chassis	0.84 / 0.84	3.5	Switch "e" opened. Fuse in
Line / Neutral to output "-"	0.84 / 0.84	3.5	Switch "e" opened. Fuse in

supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict
Input voltage: 264V			
Input frequency: 60Hz			
Overall capacity: CY1=CY2=CY3=2200pF, CY4=CY5=4700pF			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic / supplementary:				
Unit: primary to earth		DC	3000	No
T1: primary/secondary to core		AC	1605	No
Reinforced:				
Unit: primary to secondary		DC	4242	No
T1: primary to secondary		AC	3000	No
T2: primary to secondary		AC	3000	No
T2: secondary to core		AC	3000	No
One layer of insulation tape in T1 and T2		AC	3000	No
Supplementary information:				
1. Above the test is conducted at all sources of transformer (T1, T2) and insulation tape.				

5.3	TABLE: Fault condition tests						P
Ambient temperature (°C)		25, unless otherwise specified.				—	
Power source for EUT: Manufacturer, model/type, output rating		--				—	
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Model : FSP600-702UH							
2M1 Sec-	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.	
2M1 Pri-	Short	240	65min	F1	3.0	Normal operation, no hazards. T1: 72.8°C, T2: 52.2°C, 2M1 body: 63.0°C, Amb: 27.6°C	
2M1 Pin 1	Open	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.	
7M1 Sec-	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.	
7M1 Pri-	Short	240	30min	F1	0.14	Unit shutdown except +5Vsb, no hazards.	

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Clause	Requirement + Test				Result - Remark	Verdict
7M1 Pin1	Open	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
2M3 Sec-	Short	240	30min	F1	0.1 – 0.3	Unit cycle protection, no hazards
2M3 Pri-	Short	240	30min	F1	0.1	Unit shutdown, no hazards.
2M3 Pin1	Open	240	30min	F1	0.1 – 0.3	Unit cycle protection, no hazards
T1 pin 1 - 4	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
T1 pin 9,10,11,12 – (T1-G) FYLG	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
T1 pin 9,10,11,12 – 15,16	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
T2 pin 4 - 5	Short	240	30min	F1	0.1	Unit shutdown, no hazards.
T2 pin 1 - 2	Short	240	30min	F1	0.1	Unit shutdown, no hazards.
T2 pin (8)A – (10)B	Open	240	30min	F1	0.1	Unit shutdown, no hazards.
1Q6 G-S	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
1Q6 G-D	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q6 D-S	Open	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q7 G-S	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
1Q7 G-D	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q7 D-S	Open	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q2 G-S	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
1Q2 G-D	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q2 D-S	Open	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
2M2 pin 2 – 6	Short	240	30min	F1	0.1	Unit shutdown, no hazards.
2M2 pin 4 - 1	Short	240	1 sec	F1	--	F1 opened, 2Z3, 2R3A, 2R3B damage, no hazards.
1C1	Short	240	1 sec	F1	--	F1 opened, no hazards.
BD1 pin 3 - 1	Short	240	1 sec	F1	--	F1 opened, no hazards.
Fan	Stalled	240	1h52m	F1	0.2	Unit shutdown except +5Vsb, no hazards. T1=83°C, T2=84°C, 2M1 =60°C, Amb=26.3°C

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Clause	Requirement + Test				Result - Remark	Verdict
Ventilation openings	Blocked	240	3h06m	F1	0.2 – 2.96	Unit cycle protection, no hazards. T1=99°C, T2=99°C, 2M1=80°C, Amb=27.2°C
+3.3V – RTN	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+3.3V - +5V	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+3.3V - +12V1	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+3.3V - -12V	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+3.3V - +5Vsb	Short	240	30 min	F1	0.1	Unit shutdown, no hazards.
+5V - RTN	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+5V - +12V1	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+5V - -12V	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+5V - +5Vsb	Short	240	79 min	F1	3.0	Normal operation, no hazards. T1: 72.8°C, T2: 51.9°C, 2M1 body: 62.8°C, Amb: 28.0°C
+12V1 - RTN	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+12V1 - -12V	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
+12V1 - +5Vsb	Short	240	30 min	F1	0.1	Unit shutdown, no hazards.
-12V - RTN	Short	240	30 min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
-12V - +5Vsb	Short	240	30 min	F1	0.1	Unit shutdown, no hazards.
+5Vsb - RTN	Short	240	30 min	F1	0.1	Unit shutdown, no hazards.
+5Vsb mode	overload	240	4h20m	F1	0.27	Temperature was stable at load 4A. T1 coil= 30°C, T2 coil= 80°C, 2M1 Body = 36°C, Ambient= 26.4°C, Unit shutdown at load 4.5A, temperature was drop. No hazards.
Model: FSP500-702UH						
1Q6 G-D	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q6 D-S	Open	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q6 G-S	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
1Q7 G-D	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q7 D-S	Open	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q7 G-S	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
1Q2 G-S	Short	240	30min	F1	0.2	Unit shutdown except +5Vsb, no hazards.
1Q2 G-D	Short	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1Q2 D-S	Open	240	1 sec	F1	--	F1 opened, 1Q6, 1Q7, 1Q2 damage, no hazards.
1C1	Short	240	1 sec	F1	--	F1 opened, no hazards.
BD1 pin 3 - 1	Short	240	1 sec	F1	--	F1 opened, no hazards.
Fan	Stalled	240	1h59m	F1	0.2	Unit shutdown except +5Vsb, no hazards. T1=87°C, T2=72°C, 2M1 =64°C, Amb=25.8°C
Ventilation openings	Blocked	240	1h29m	F1	0.2 – 2.46	Unit cycle protection, no hazards. T1=99°C, T2=93°C, 2M1 =78°C, Amb=26.7°C
T2 pin 10 after 2D3	overload	240	3h10m	F1	2.57	Temperature was stable at load 1A, output load 3A. T1 coil= 69°C, T2 coil= 49°C, 2M1 Body = 52°C, Ambient= 25.8°C, Unit shutdown at load 1.5A, temperature was drop. No hazards.
+5Vsb	overload	240	2h54m	F1	2.49	Temperature was stable at load 3.6A, output load 4A. T1 coil= 90°C, T2 coil= 66°C, 2M1 Body = 72°C, Ambient= 27.0°C, Unit shutdown at load 1.5A, temperature was drop. No hazards.
Model: FSP500-701UH						
Fan	Stalled	240	1h25m	F1	0.2	Unit shutdown except +5Vsb, no hazards. T1=83°C, T2=74°C, 2M1 =62°C, Amb=26.8°C
Ventilation openings	Blocked	240	2h20m	F1	0.2 – 2.46	Unit cycle protection, no hazards. T1=91°C, T2=92°C, 2M1 =81°C, Amb=24.6°C

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
T1 pin 9, 10, 11, 12 after D301 (for +3.3V)	overload	240	7h55m	F1	2.91	Temperature was stable at load 21A, output load 20A. T1 coil= 97°C, T2 coil= 91°C, 2M1 Body = 72°C, Ambient= 28.1°C, Unit shutdown except for +5Vsb at load 24.5A, temperature was drop. No hazards.
T1 pin 9, 10, 11, 12 after D301 (for +5V)	overload	240	10h28m	F1	3.44	Temperature was stable at load 33A, output load 20A. T1 coil= 125°C, T2 coil= 87°C, 2M1 Body = 82°C, Ambient= 26.0°C, Unit shutdown except for +5Vsb at load 35A, temperature was drop. No hazards.
T1 pin 15, 16 after D601 (for +12V)	overload	240	8h38m	F1	3.37	Temperature was stable at load 16A, output load 39A. T1 coil= 140°C, T2 coil= 86°C, 2M1 Body = 89°C, Ambient= 25.3°C, Unit shutdown except for +5Vsb at load 35A, temperature was drop. No hazards.
+3.3V	overload	240	3h51m	F1	2.74	Temperature was stable at load 30A. T1 coil= 89°C, T2 coil= 78°C, 2M1 Body = 66°C, Ambient= 27.0°C, Unit shutdown except for +5Vsb at load 32A, temperature was drop. No hazards.
+5V	overload	240	4h10m	F1	2.67	Temperature was stable at load 27A. T1 coil= 85°C, T2 coil= 72°C, 2M1 Body = 63°C, Ambient= 25.8°C, Unit shutdown except for +5Vsb at load 30A, temperature was drop. No hazards.
+12V3	overload	240	3h25m	F1	2.57	Temperature was stable at load 19A. T1 coil= 84°C, T2 coil= 70°C, 2M1 Body = 66°C, Ambient= 26.3°C, Unit shutdown except for +5Vsb at load 20A, temperature was drop. No hazards.
-12V	overload	240	5h53m	F1	2.81	Temperature was stable at load 6A. T1 coil= 86°C, T2 coil= 72°C, 2M1 Body = 67°C, Ambient= 26.0°C, Unit shutdown except for +5Vsb at load 6.3A, temperature was drop. No hazards.
Supplementary information: For fuse opened condition, same result came out for each source of fuse used and repeat 3 times for UL/CUL approval source.						

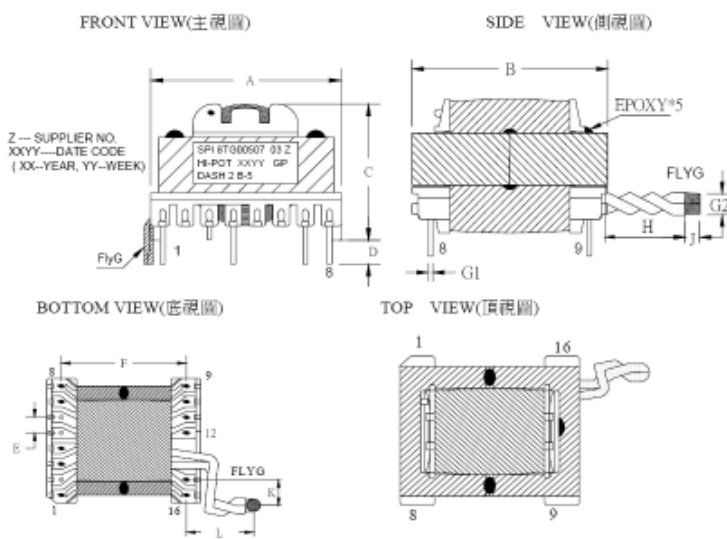
IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
C.2	TABLE: transformers						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
T1	Primary /input winding and secondary/output winding (internal)	420	250	AC 3000V	4.0	5.0	See supp. information
T1	Primary/input winding and core (internal)	420	250	AC 1605V	2.0	2.5	See supp. information
T1	Secondary/output winding and core (internal)	420	250	AC 1605V	2.0	2.5	See supp. information
T1	Primary/input part and secondary/output part (external)	420	250	AC 3000V	4.0	5.0	See supp. information
T1	Primary/input part and core (external)	420	250	AC 1605V	2.0	2.5	See supp. information
T1	Primary/input part and secondary/output winding (external)	420	250	AC 3000V	4.0	5.0	See supp. information
T1	Secondary/output part and core (external)	420	250	AC 1605V	2.0	2.5	See supp. information
T1	Secondary/output part and primary/input winding (external)	420	250	AC 3000V	4.0	5.0	See supp. information
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T1	Primary /input winding and secondary/output winding (internal)			AC 3000V	5.2	5.2	See supp. information
T1	Primary/input winding and core (internal)			AC 1605V	3.2	3.2	See supp. information
T1	Secondary/output winding and core (internal)			AC 1605V	7.5	7.5	See supp. information
T1	Primary/input part and secondary/output part (external)			AC 3000V	33.8 (primary pin to secondary pin)	33.8 (primary pin to secondary pin)	See supp. information
T1	Primary/input part and core (external)			AC 1605V	9.9 (pin to core)	9.9 (pin to core)	See supp. information

IEC 60950-1					
Clause	Requirement + Test	Result - Remark			Verdict
T1	Primary/input part and secondary/output winding (external)	AC 3000V	17.6 (primary pin to secondary winding)	17.6 (primary pin to secondary winding)	See supp. information
T1	Secondary/output part and core (external)	AC 1605V	9.9 (pin to core)	9.9 (pin to core)	See supp. information
T1	Secondary/output part and primary/input winding (external)	AC 3000V	17.6 (secondary winding to primary pin)	17.6 (secondary winding to primary pin)	See supp. information
supplementary information:					

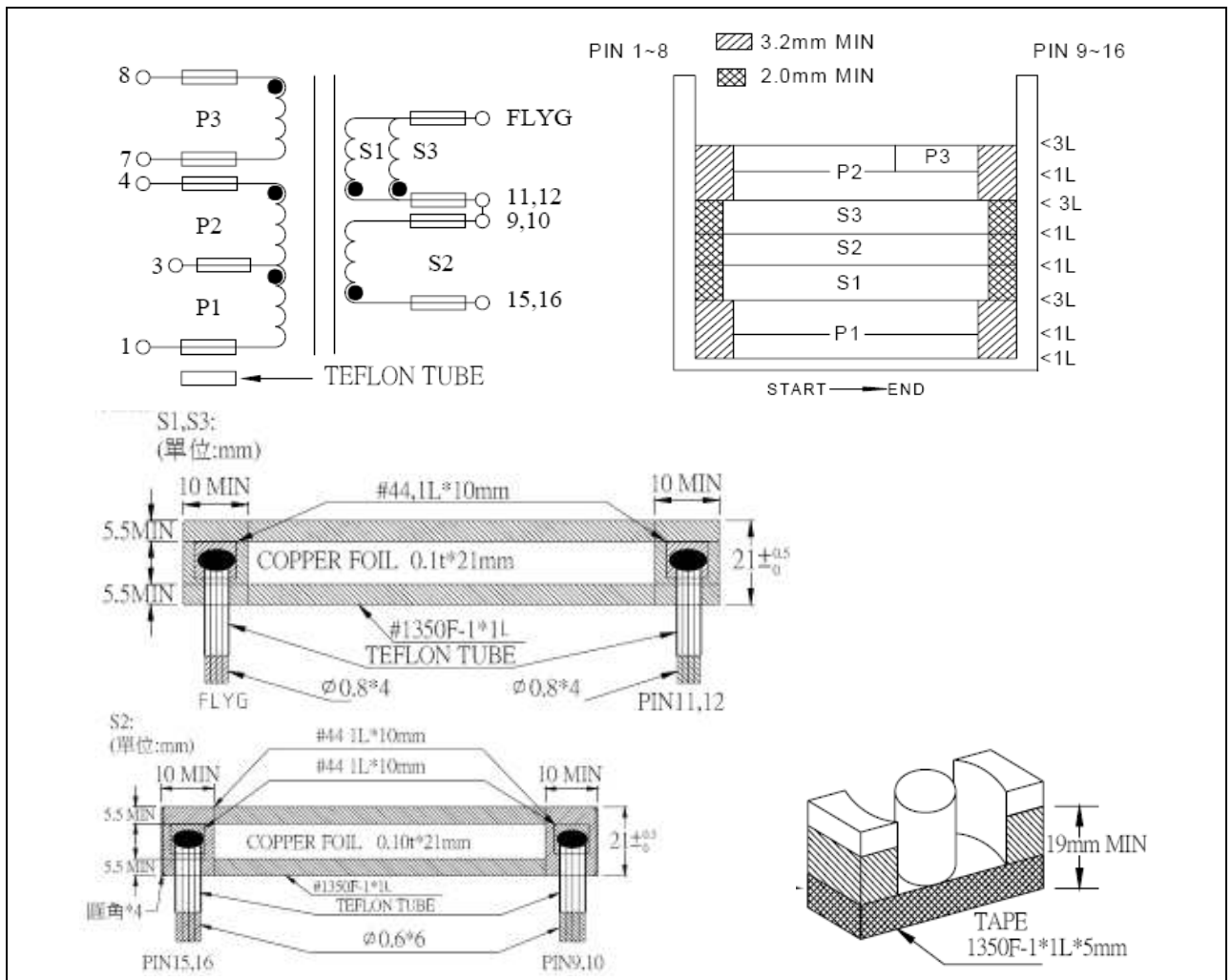
C.2	TABLE: transformers	P
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Construction:

- Concentric windings on ERL-35H type mechanical package, transformer construction as below:
- Three layers of insulation tape between primary and secondary windings.
- One layer of insulation tape wrapped on bobbin before winding wrapped.
- Margin tape 3.2mm is provided on all primary windings and 2.0mm is provided on secondary cooper foils of transformer.
- Winding ends additionally fixed with tape and tubing is provided for all leads, outer winding is primary.
- Secondary foils S1, S2 and S3 wrapped around one layer of insulation tape provided and fold-back 5.5mm on top/bottom, fold-back 10.0mm on left/right side.
- Core is considered as floating and one layer of insulation tape are provided on bottom core and fold-back upward.



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



Bobbin:	
Primary/input pins.....:	3 – 1 (P1), 4 – 3 (P2), 8 – 7 (P3)
Secondary/output pins.....:	11/12 – FLYG (S1/S3), 15/16 – 9/10 (S2)
Material (manufacturer, type, ratings)....:	Chang Chun Plastics, Phenolic type T375J, V-0, 150°C
Thickness (mm)	1.2mm

C.2	TABLE: transformers						P
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)
T2	Primary /input winding and secondary/output winding (internal)	528	341	AC 3000V	4.4	7.2	See supp. information
T2	Primary/input winding and core (internal)	--	--	--	--	--	--

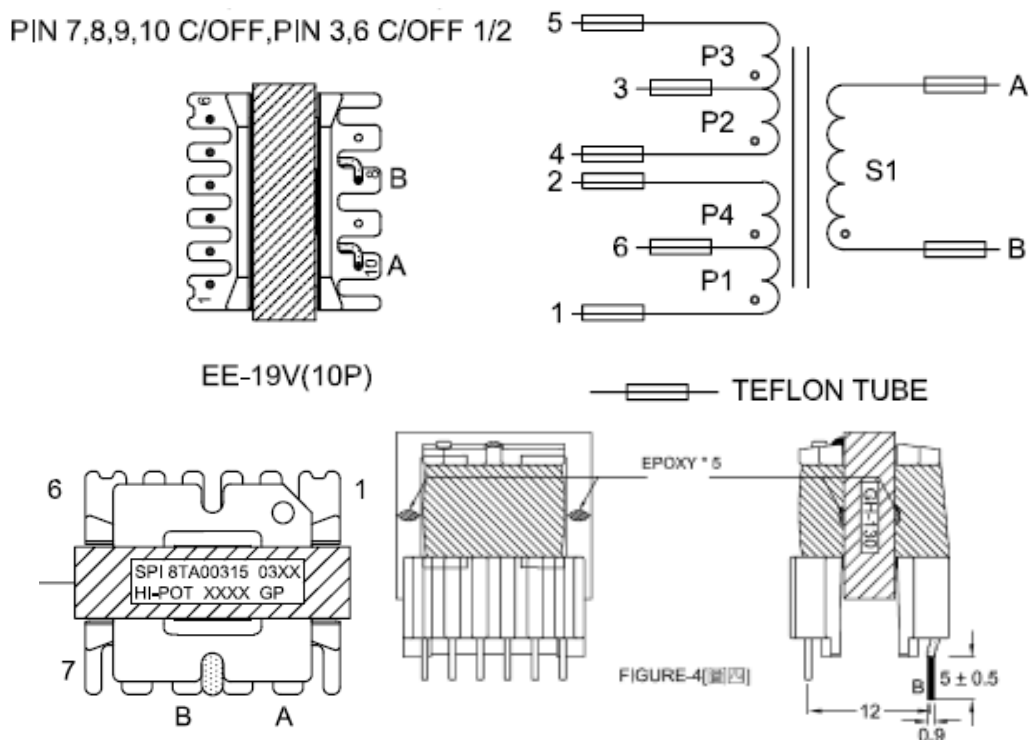
IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
T2	Secondary/output winding and core (internal)	528	341	AC 3000V	4.4	7.2	See supp. information
T2	Primary/input part and secondary/output part (external)	528	341	AC 3000V	4.4	7.2	See supp. information
T2	Primary/input part and core (external)	--	--	--	--	--	--
T2	Primary/input part and secondary/output winding (external)	528	341	AC 3000V	4.4	7.2	See supp. information
T2	Secondary/output part and core (external)	528	341	AC 3000V	4.4	7.2	See supp. information
T2	Secondary/output part and primary/input winding (external)	528	341	AC 3000V	4.4	7.2	See supp. information
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
T2	Primary /input winding and secondary/output winding (internal)			AC 3000V	Triple insulation wire used.	Triple insulation wire used.	See supp. information
T2	Primary/input winding and core (internal)			--	--	--	--
T2	Secondary/output winding and core (internal)			AC 3000V	Triple insulation wire used.	Triple insulation wire used.	See supp. information
T2	Primary/input part and secondary/output part (external)			AC 3000V	10.9 (primary pin to secondary pin)	10.9 (primary pin to secondary pin)	See supp. information
T2	Primary/input part and core (external)			--	--	--	--
T2	Primary/input part and secondary/output winding (external)			AC 3000V	Triple insulation wire used.	Triple insulation wire used.	See supp. information
T2	Secondary/output part and core (external)			AC 3000V	13.6 (core to secondary fly wire pin)	13.6 (core to secondary fly wire pin)	See supp. information

IEC 60950-1					
Clause	Requirement + Test	Result - Remark			Verdict
T2	Secondary/output part and primary/input winding (external)	AC 3000V	13.6 (primary winding to secondary fly wire pin)	13.6 (primary winding to secondary fly wire pin)	See supp. information
supplementary information:					

C.2	TABLE: transformers	P
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Construction:

- Concentric windings on EE-19V(10P) type mechanical package, transformer construction as below.
- Triple insulation wire is used in secondary winding layer and details see measurement section table 1.5.1. and subclause 2.10.5.12, Annex U.
- One layer of insulation tape between primary and secondary windings and two layers of insulation tapes wrapped on outer layer.
- Winding ends additionally fixed with tape and tubing is provided for all leads, outer winding is primary.
- Two layers of insulation tape around the transformer.



Bobbin:

Primary/input pins.....:	1 – 6 (P1), 6 – 2 (P4), 4 – 3 (P2), 3 – 5 (P3)
Secondary/output pins.....:	B – A (S1)
Material (manufacturer, type, ratings)....:	Chang Chun Plastics, Phenolic type T375J, V-0, 150°C
Thickness (mm)	0.90mm

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict

List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date

No listing of test equipment used necessary for chosen test procedure.

2.1.1.7 TABLE: discharge test				P
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments
Line to Neutral (Fuse in condition)	0.91	0.86	--	Vo=370V, 37% of Vo=138V, after 1 sec. at 118V
Line to Neutral (Fuse out condition)	0.68	0.61	--	Vo=372V, 37% of Vo=138V, after 1 sec. at 72V
Supplementary information: Test voltage: 264Vac at 60Hz Fuse in: Capacitance: 1.37 μ F (CX= 0.68 μ F, CX1= 0.47 μ F, CX2= 0.22 μ F) Discharge resistor: 0.66M Ω (RX=RX1=RX2=1M Ω) Fuse out: Capacitance: 0.68 μ F (CX= 0.68 μ F) Discharge resistor: 1M Ω (RX=1M Ω)				

2.4.2 TABLE: Limited current circuit measurement						P
Location	Voltage (V of U2)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments	
CY3 sec. pin to PE	0.9	0.45	0.06	0.7	CY3=2200pF	
Supplementary information: Test voltage 240V, 60Hz						

2.6.3.4 TABLE: ground continue test			P
Location	Resistance measured (m Ω)	Comments	
Model FSP600-702UH			
Inlet PE to Metal enclosure	9	Test current = 32A, 2 minutes.	
Inlet PE to output "--"	9	Test current = 32A, 2 minutes.	
Inlet PE to Metal enclosure	9	Test current = 40A, 2 minutes. Drop voltage 0.35V.	
Inlet PE to output "--"	9	Test current = 40A, 2 minutes. Drop voltage 0.36V.	
Model FSP500-701UH			
Inlet PE to Metal enclosure	6	Test current = 32A, 2 minutes.	
Inlet PE to output "--"	8	Test current = 32A, 2 minutes.	
Inlet PE to Metal enclosure	6	Test current = 40A, 2 minutes. Drop voltage 0.24V.	

Inlet PE to output “-“	8	Test current = 40A, 2 minutes. Drop voltage 0.31V.
Note(s):		

4.6.1, 4.6.2	Table: Enclosure opening measurements	N/A
Location	Size (mm)	Comments
Supplementary information:		

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements	
Differences according to.....:	EN 60950-1:2006/A11:2009/A1:2010/A12:2011
Attachment Form No.....:	EU_GD_IEC60950_1C_II
Attachment Originator.....:	SGS Fimko Ltd
Master Attachment.....:	Date 2011-08
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS
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IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Contents	Add the following annexes:		P
	Annex ZA (normative)	Normative references to international publications with their corresponding European publications	
	Annex ZB (normative)	Special national conditions	
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list:		P
	1.4.8 Note 2	1.5.1 Note 2 & 3	1.5.7.1 Note
	1.5.8 Note 2	1.5.9.4 Note	1.7.2.1 Note 4, 5 & 6
	2.2.3 Note	2.2.4 Note	2.3.2 Note
	2.3.2.1 Note 2	2.3.4 Note 2	2.6.3.3 Note 2 & 3
	2.7.1 Note	2.10.3.2 Note 2	2.10.5.13 Note 3
	3.2.1.1 Note	3.2.4 Note 3.	2.5.1 Note 2
	4.3.6 Note 1 & 2	4.7 Note 4	4.7.2.2 Note
	4.7.3.1 Note 2	5.1.7.1 Note 3 & 4	5.3.7 Note 1
	6 Note 2 & 5	6.1.2.1 Note 2	6.1.2.2 Note
	6.2.2 Note	6.2.2.1 Note 2	6.2.2.2 Note
	7.1 Note 3	7.2 Note	7.3 Note 1 & 2
	G.2.1 Note 2	Annex H Note 2	
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:		P
	1.5.7.1 Note	6.1.2.1 Note 2	
	6.2.2.1 Note 2	EE.3 Note	

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	<p>Add the following subclause:</p> <p>1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones.</p> <p>NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.</p>	Not a portable sound system.	N/A
(A12:2011)	<p>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</p>	Deleted.	N/A
1.5.1	<p>Add the following NOTE:</p> <p>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC</p>	Considered.	N/A
1.7.2.1 (A1:2010)	<p>In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.</p>	Not a portable sound system.	N/A
1.7.2.1 (A12.2011)	<p>In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.</p>	Deleted.	N/A
	Zx Protection against excessive sound pressure from personal music players		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.1 General</p> <p>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.</p> <p>A personal music player is a portable equipment for personal use, that:</p> <ul style="list-style-type: none"> – 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. <p>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.</p> <p>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.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. <p>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.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> – hearing aid equipment and professional equipment; <p>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.</p>		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</p> <p>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.</p> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A
	<p>Zx.2 Equipment requirements</p> <p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ 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. <p>NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx.</p> <p>All other equipment shall:</p> <ol style="list-style-type: none"> 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 		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>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 more than once every 20 h of cumulative listening time; and</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always required.</p> <p>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.</p> <p>d) have a warning as specified in Zx.3; and</p> <p>e) not exceed the following:</p> <ol style="list-style-type: none"> 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. <p>For music where the average sound pressure (long term $L_{Aeq,T}$) 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.</p> <p>NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) 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.</p> <p>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.</p>		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.3 Warning</p> <p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: <p>“To prevent possible hearing damage, do not listen at high volume levels for long periods.”</p> <div style="text-align: center;">  </div> <p>Figure 1 – Warning label (IEC 60417-6044)</p> <p>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.</p>		N/A
	<p>Zx.4 Requirements for listening devices (headphones and earphones)</p>		N/A
	<p>Zx.4.1 Wired listening devices with analogue input</p> <p>With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV.</p> <p>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).</p> <p>NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.</p>		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Zx.4.2 Wired listening devices with digital input</p> <p>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 $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA.</p> <p>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.).</p> <p>NOTE An example of a wired listening device with digital input is a USB headphone.</p>		N/A
	<p>Zx.4.3 Wireless listening devices</p> <p>In wireless mode:</p> <ul style="list-style-type: none"> – with any playing and transmitting device playing the fixed programme simulation noise described in 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 $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. <p>NOTE An example of a wireless listening device is a Bluetooth headphone.</p>		N/A
	<p>Zx.5 Measurement methods</p> <p>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.</p> <p>NOTE Test method for wireless equipment provided without listening device should be defined.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict						
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>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):</p> <p>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;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>	Replaced.	N/A						
	<p>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.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A						
2.7.2	This subclause has been declared 'void'.		N/A						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table border="0"> <tr> <td>Up to and including 6 </td> <td>0,75^{a)} </td> </tr> <tr> <td>Over 6 up to and including 10 </td> <td>(0,75)^{b)} 1,0 </td> </tr> <tr> <td>Over 10 up to and including 16 </td> <td>(1,0)^{c)} 1,5 </td> </tr> </table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10	(0,75) ^{b)} 1,0	Over 10 up to and including 16	(1,0) ^{c)} 1,5		N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10	(0,75) ^{b)} 1,0								
Over 10 up to and including 16	(1,0) ^{c)} 1,5								

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Clause	Requirement + Test	Result - Remark	Verdict
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 4 Delete the fifth line: conductor sizes for 13 to 16 A		N/A
4.3.13.6 (A1:2010)	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).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		N/A
Bibliography	Additional EN standards.		—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In Finland , Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No such components.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	No such components.	N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p> <p>In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.</p> <p>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.</p> <p>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:</p> <p>"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>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.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet." Translation to Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."</p>		N/A
1.7.5	<p>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.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No such components.	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	Considered.	P
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	No plug provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p> <p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A</p>		N/A
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A
3.2.1.1	<p>In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
3.2.1.1	<p>In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.</p>		N/A
3.2.4	<p>In Switzerland, for requirements see 3.2.1.1 of this annex.</p>		N/A
3.2.5.1	<p>In the United Kingdom, a power supply cord with conductor of 1,25 mm² is allowed for equipment with a rated current over 10 A and up to and including 13 A.</p>		N/A
3.3.4	<p>In the United Kingdom, the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is:</p> <ul style="list-style-type: none"> • 1,25 mm² to 1,5 mm² nominal cross-sectional area. 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	No plug provided.	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	No plug provided.	N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1 (A1:2010)	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - 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. <p>Alternatively for components, there is no distance through insulation requirements 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</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. 		N/A
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by 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 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14. 		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.		N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60950-1
CANADA NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: CAN/CSA-C22.2 NO. 60950-1A-07

Attachment Form No......: CA_ND_IEC60950_1C

Attachment Originator: TÜV SÜD Product Service GmbH

Master Attachment.....: Date (2012-08)

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	Special national conditions		P
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	See above.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.		N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	A voltage rating is not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	No such components.	N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	Modified.	P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.	Shall be evaluated in the final system.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No lasers.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A
	Other National Differences		P
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	All components identified are either in comply with IEC standards or relevant requirements of CSA and UL component standards.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	No such constructions.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles complies with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.	No TNV circuit.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.	See the test report.	P
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 FINLAND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to..... : EN 60950-1:2006/A11:2009/A1:2010			
Attachment Form No..... : FI_ND_IEC60950_1C			
Attachment Originator : SGS Fimko Ltd			
Master Attachment..... : Date (2010-04)			
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	National Differences		P
General	See also Group Differences (EN 60950-1:2006/A11/A1)		P
1.5.7.1	In Finland 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.	No such components.	N/A
1.5.9.4	In Finland , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In Finland , 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 in Finland shall be as follows: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"		N/A
2.3.2	In Finland , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.10.5.13	In Finland , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In Finland, TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 		N/A
6.1.2.1 (A1:2010)	<p>In Finland, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - 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. <p>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</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. 		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14:2005 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 60384-14:2005; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN 60384-14:2005. 		N/A
6.1.2.2	<p>In Finland, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In Finland, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	No cable distribution system.	N/A

National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60950-1
GERMANY NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: VDE 0805-1:2011-01

Annex ZC, 1.7.2.1	According to GPSG, section 2, clause 4: If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.		N/A
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National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60950-1
ISRAEL NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: SI 60950 Part 1

1.1.1	Replace the the text of Note 3 as follows: The requirements of Israel Standard SI 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment.	Replaced.	N/A
1.6	The clause is applicable with the following addition:		N/A
1.6.1	Add following note: In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.	Added.	N/A
1.7	The clause is applicable with the following additions: Subclause 1.7.201 shall be added at the beginning of the clause as follows:		N/A
1.7.201	Marking in the Hebrew language The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983. In addition to 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 it 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 manufacture.	Shall be checked during national approval.	N/A
1.7.2.1	The following shall be added to the clause: All the instructions and warnings related to safety shall also be written in the Hebrew language.	Shall be checked during national approval.	N/A
2	The clause is applicable with the following additions:		N/A

National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.4	<p>The following shall be added at the beginning of the clause:</p> <p>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows:</p> <ol style="list-style-type: none"> 1) TN-S - Network system earthing; TN-C-S - Network system earthing; 2) TT - Network system earthing; 3) IT - Network Insulation Terre; 4) Isolated transformer; 5) Safety extra low voltage (SELV or ELV); 6) Residual current circuit breaker (30 mA = IΔ); 7) Reinforced insulation; Double insulation (class II) 		N/A
2.201	<p>Prevention of electromagnetic interference</p> <p>- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.</p> <p><u>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</u></p> <p>- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.</p>		N/A
3	The clause is applicable with the following additions:		N/A
3.2.1.1	<p>Connection to an a.c. mains supply</p> <p>After the note, the following note shall be added:</p> <p>Note:</p> <p>In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.</p>		N/A
3.2.1.2	<p>Connection to a d.c. mains supply</p> <p>At the end of the first paragraph, the following note shall be added:</p> <p>Note:</p> <p>At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.</p>		N/A
Annex P	<p>Normative references</p> <p>(List of relevant Israel Standards that have been inserted in place of some of the International Standards)</p>		N/A

National Differences to IEC 60950-1:2005 + A1:2009			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 KOREA NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to.....: K 60950-1			

1.5.101	Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305)		N/A
8	EMC The apparatus shall comply with the relevant CISPR standards.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60950-1
U.S.A. NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....: UL 60950-1-07

Attachment Form No.: US_ND_IEC60950_1C

Attachment Originator.....: TÜV SÜD Product Service GmbH

Master Attachment.....: Date (2012-08)

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	Special national conditions		P
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Same as above.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.		N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	A voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and "Class 2" or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.	No such components.	N/A
2.6.3.3	Modify first column on Table 2D to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."	Modified.	P
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 per cent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to "Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration."		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.	Shall be evaluated in the final system.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No lasers.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
	Other National Differences		P
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	All components identified are either in comply with IEC standards or relevant requirements of CSA and UL component standards.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.		N/A
	This maximum operating voltage includes consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	No such constructions.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles complies with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.	See the test report.	P

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuit.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.		N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 60950-1 AUSTRALIA and NEW ZEALAND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to.....: AS/NZS 60950.1:2011			

1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12	Inserted. Considered.	P
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE Possible fault which can start 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 15 VA. 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. NOTE 202 This definition is from AS/NZS 60065:2003.	Added. Considered.	P
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'	Added.	N/A
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'	Added.	N/A

National Differences to IEC 60950-1:2005																				
Clause	Requirement + Test	Result - Remark	Verdict																	
3.2.5.1	<p>Modify Table 3B as follows:</p> <p>1. Delete the first four rows and replace with the following:</p> <table border="1"> <thead> <tr> <th rowspan="2">RATED CURRENT of equipment A</th> <th colspan="2">Minimum conductor sizes</th> </tr> <tr> <th>Nominal cross-sectional area mm²</th> <th>AWG or kcmil [cross-sectional area in mm²] see Note 2</th> </tr> </thead> <tbody> <tr> <td>Over 0.2 up to and including 3</td> <td>0,5 ^a</td> <td>18 [0,8]</td> </tr> <tr> <td>Over 3 up to and including 7.5</td> <td>0,75</td> <td>16 [1,3]</td> </tr> <tr> <td>Over 7.5 up to and including 10</td> <td>(0,75) ^b 1,00</td> <td>16 [1,3]</td> </tr> <tr> <td>Over 10 up to and including 16</td> <td>(1,0) ^c 1,5</td> <td>14 [2]</td> </tr> </tbody> </table> <p>2. Delete NOTE 1.</p> <p>3. Delete Footnote ^a and replace with the following: ^a 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 AS/NZS 3191).</p>	RATED CURRENT of equipment A	Minimum conductor sizes		Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2	Over 0.2 up to and including 3	0,5 ^a	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ^b 1,00	16 [1,3]	Over 10 up to and including 16	(1,0) ^c 1,5	14 [2]	Modified. No power cord provided.	N/A
RATED CURRENT of equipment A	Minimum conductor sizes																			
	Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see Note 2																		
Over 0.2 up to and including 3	0,5 ^a	18 [0,8]																		
Over 3 up to and including 7.5	0,75	16 [1,3]																		
Over 7.5 up to and including 10	(0,75) ^b 1,00	16 [1,3]																		
Over 10 up to and including 16	(1,0) ^c 1,5	14 [2]																		
4.1.201	<p>Insert a new Clause 4.1.201 after Clause 4.1 as follows:</p> <p>4.1.201 Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.</p>	No television.	N/A																	
4.3.6	<p>Delete the third paragraph and replace with the following:</p> <p><i>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin 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.</i></p>	Deleted and Replaced. No plug provided.	N/A																	
4.3.16.5	<p>Add the following to the end of the first paragraph: 'or AS/NZS 2211.1'</p>	Added.	N/A																	

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
4.7	Add the following new paragraph to the end of the clause: 'For alternate tests refer to Clause 4.7.201.'	Added.	P
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: 4.7.201 Resistance to fire – Alternative tests	Inserted. All materials have suitable flame class.	N/A
4.7.201.1	4.7.201.1 General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm ³ , integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.	Same as above.	N/A

National Differences to IEC 60950-1:2005									
Clause	Requirement + Test	Result - Remark	Verdict						
4.7.201.2	<p>4.7.201.2 Testing of non-metallic materials</p> <p>Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550 °C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.</p>	Same as above.	N/A						
4.7.201.3	<p>4.7.201.3 Testing of insulating materials</p> <p>Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750 °C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE Contacts in components such as switch contacts are considered to be connections.</p> <p>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:</p> <table border="1" data-bbox="416 1400 1007 2056"> <thead> <tr> <th>Clause of AS/NZS 60695.11.5</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td colspan="2">9 Test procedure</td> </tr> <tr> <td>9.2 Application of needleflame</td> <td> Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s </td> </tr> </tbody> </table>	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needleflame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s	Same as above.	N/A
Clause of AS/NZS 60695.11.5	Change								
9 Test procedure									
9.2 Application of needleflame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s								

National Differences to IEC 60950-1:2005									
Clause	Requirement + Test	Result - Remark	Verdict						
	<table border="1"> <tr> <td></td> <td>±1 s.</td> </tr> <tr> <td>9.3 Number of test specimens</td> <td>Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</td> </tr> <tr> <td>11 Evaluation of test results</td> <td>Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</td> </tr> </table> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.</p>		±1 s.	9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.	11 Evaluation of test results	Replace with: The duration of burning (t _b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		
	±1 s.								
9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.								
11 Evaluation of test results	Replace with: The duration of burning (t _b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.								
4.7.201.4	<p>4.7.201.4 Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.</p> <p>NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.</p>	Same as above.	N/A						
4.7.201.5	<p>4.7.201.5 Testing of printed boards</p> <p>The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest</p>	Same as above.	N/A						

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.</p> <p>The test is not carried out if the —</p> <ul style="list-style-type: none"> - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <p>Compliance shall be determined using the smallest thickness of the material.</p> <p>NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		
6.2.2	<p>For Australia only, delete the first paragraph and Note, and replace with the following:</p> <p>In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.</p>	No TNV circuit.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	<p>For Australia only, delete the first paragraph including the Notes, and replace with the following:</p> <p><i>In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is:</i></p> <p><i>(i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and</i></p> <p><i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i></p> <p>NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>	No TNV circuit.	N/A
6.2.2.2	<p>For Australia only, delete the second paragraph including the Note, and replace with the following:</p> <p><i>In Australia only, the a.c. test voltage is:</i></p> <p><i>(i) for 6.2.1 a): 3 kV; and</i></p> <p><i>(ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV.</i></p> <p>NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	No TNV circuit.	N/A
7.3	<p>Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>	Added. No cable distribution system.	N/A
Annex P	<p>Normative references</p> <p>(List of relevant Australia/New Zealand Standards that have been inserted in place of some of the International Standards)</p>	Considered.	P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict



**ATTACHMENT TO TEST REPORT IEC 60950-1
CHINA NATIONAL DIFFERENCES**

Information technology equipment – Safety –

Part 1: General requirements



Differences according to.....: GB4943.1-2011

1.1.2	GB 4943.1-2011 applies to equipment for use at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Amend the third dashed paragraph of 1.1.2 as: — — equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;	Unit was applied for moderate climates and operated altitude 2000m.	P
1.4.5	After the third paragraph, add a paragraph: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10%,-10% unless a wider tolerance is declared by the manufacturer. The first dash paragraph "-the RATED VOLTAGE is 230V single -phase or 400V three-phase, in which case the tolerance shall be taken as +10% and -10%" of IEC 60950-1:2005 is deleted in GB 4943.1-2011		N/A
1.4.12.1	T _{ma} in clause 1.4.12.1 amended as: T _{ma} : is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, T _{ma} : is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment is to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.	Unit was applied for moderate climates and operated altitude 2000m.	P
1.5. 2	Add a note behind the first break off section in Clause 1.5.2: A component used shall comply with related requirements corresponding altitude of 5000m.		N/A
1.7	Add one paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.	Overall acceptance has to be evaluated during the national approval process.	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	<p>Based on the AC mains supply of China, the RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured.</p> <p>And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.</p>		N/A
1.7.2.1	<p>Add requirements of warning for equipment intended to be used at altitudes not exceeding 2000m or at non-tropical climate regions:</p> <p>For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used at altitude not exceeding 2000m."</p>  <p>For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place.</p> <p>"Only used in not-tropical climate regions."</p>  <p>If only the symbol used, the explanation of the symbol shall be contained in the instruction manual.</p> <p>The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.</p>	<p>Unit was applied for moderate climates and operated altitude 2000m.</p> <p>Overall acceptance has to be evaluated during the national approval process.</p>	N/A
2.7.1	<p>Amended the first paragraph as:</p> <p>Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3.</p> <p>Delete note of Clause 2.7.1.</p>		N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.2	<p>First section of Clause 2.9.2 amended as two sections:</p> <p>Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature $40\pm 2^{\circ}\text{C}$ and a relative humidity of $(93\pm 3)\%$. During this conditioning the component or subassembly is not energized.</p> <p>For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of $(93\pm 3)\%$. The temperature of the air, at all places where samples can be located, is maintained within 2°C of any convenient value between 20°C and 30°C such that condensation does not occur.</p> <p>Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered.</p> <p>Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.</p>	Unit was applied for moderate climates and operated altitude 2000m.	P
2.10.3.1	<p>Amend the third paragraph of Clause 2.10.3.1 to be:</p> <p>These requirements apply for equipment to be operated up to 2000 m above sea level. For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.</p>	Unit was applied for moderate climates and operated altitude 2000m.	P
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K \ 2L and 2M.	Added.	P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1 (IEC 60664-1). For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.	Unit was applied for moderate climates and operated altitude 2000m.	P
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.	Added. Overall acceptance has to be evaluated during the national approval process.	N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Last section of Annex E amended as: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. And add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.	Not apply for.	N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.	Changed.	P
Annex BB (informative)	Amended as : The differences between Chinese national standards GB 4943.1-2011 and GB 4943-2001.	Amended.	P

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DD (normative)	<p>Added annex DD: Instructions for the new safety warning labels.</p> <p>DD.1 Altitude warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefore it's the only operating condition applied for the equipment. There may be some potential safety hazard if the equipment is used at altitude above 2000m.</p> <p>DD.2 Climate warning label</p>  <p>Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefore it's the only operating condition applied for the equipment. There may be some potential safety hazard if the equipment is used in tropical climate region.</p>	<p>Unit was applied for moderate climates and operated altitude 2000m.</p> <p>Overall acceptance has to be evaluated during the national approval process.</p>	N/A
Annex EE (informative)	<p>Added annex EE:</p> <p>Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighu.</p>	<p>Added. Overall acceptance has to be evaluated during the national approval process.</p>	N/A
Other amendments	<p>In accordance with the relevant CTL decisions and the amendments of IEC 60950-1, the specific requirements or mistakes in IEC standard are corrected or editorially modified in this part, Including clause 1.7, 2.1.1.7, 2.9.2, Table 2H, Figure 2H, F.8, F.9, M.3 and Annex U.</p>		P
Quoting standards and reference documents	<p>The principles of quoting and referring to other standards in Annex P and reference documents of IEC 60950-1 are as follows:</p> <p>If the date of the reference document is given, only that edition applies, excluding any subsequent corrigenda and amendments. However, parties to agreements based on this part are encouraged to investigate the possibility of applying the most recent editions of the reference documents. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendments.</p> <p>For the usage of international standards in Chinese national standards and industry standards is various, in the aim of achieving easy</p>	<p>Overall acceptance has to be evaluated during the national approval process.</p>	N/A

National Differences to IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>operation and based on the requirements of GB/T 1.1 and GB/T 20000.2, when quoting an entire international standard in the normative quoting files and reference documents of Annex P of this part, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted; - If the date of the national standard or industry standard is not given, the latest edition of the standard applies; - The national standard or industry standard number, corresponding international standard number and the consistency level code should be identified in parentheses behind the listed national standard or industry standard. <p>When quoting several chapters or clauses of the international standard, the principles of quotation are as follows:</p> <ul style="list-style-type: none"> - If there is no national standard or industry standard corresponding to the international standard, then the international standard is quoted; - If there is national standard or industry standard corresponding to the international standard, then either the national or industry standard is quoted. <p>Meanwhile, in order to retain the relevant information on international standards, informative annex CC is increased, which gives the table about the comparison of the normative quoting files and reference documents in IEC 60950-1: 2005 and GB 4943.1-2011.</p>		


National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
J 60950-1 (H22) : 2010 TEST REPORT (Deviations from IEC 60950-1:2001, first edition) Special National conditions, National deviation and other information according to MITI Ordinance No. 85. <u>Japanese unique deviations</u> in J60950-1(H22):2010(=JIS C 6950-1:2009)			
1.2.4.1	Add the following new notes. 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.	Added. The equipment is "Class I"	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: <ul style="list-style-type: none"> - 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 circuit.	Added. The equipment is "Class I"	N/A
1.3.2	Add the following notes after 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.	Added.	N/A
1.5.1	Replace the first paragraph with the follows: 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 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	Added.	P

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>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.</p> <p>Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p>		
1.5.2	<p>Replace first sentence in the first dashed paragraph with the following:</p> <ul style="list-style-type: none"> - 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. <p>Add a note after the first dashed paragraph as follows: 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.</p> <p>Replace first sentence in the third dashed paragraph as follows:</p> <ul style="list-style-type: none"> - 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. 	Added.	P
1.7.1	<p>Replace fifth dashed paragraph with the following:</p> <ul style="list-style-type: none"> - manufacturer's or responsible company's name or trade-mark or identification mark; 	Added. The responsible company's name is list on the marking plate.	P
1.7.5A	<p>Add the following new clause. after 1.7.5</p> <p>1.7.5A 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"</p>	Added. No such component	N/A

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	Replaced. Overall acceptance has to be evaluated during the national approval process.	N/A
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A 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."	Added. The equipment is "Class I"	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.	Added. The equipment is "Class I"	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. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance nlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	Added. The equipment is "Class I"	N/A
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:	Replaced.	P
2.6.5.8A	Add the following new clause. after 2.6.5.8A 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.	Added. The equipment is "Class I"	N/A

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
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.	Added.	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. 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.. Delete 1) in Table 3B.	Added.	N/A
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.	Added.	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.	Added. The equipment is "Class I"	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.	Added. The equipment is "Class I"	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.	Added. Single phase power distribution system used.	N/A
5.1.6	Replace Table 5A. as follows	Replaced.	P

National Differences to IEC 60950-1:2001																															
Clause	Requirement + Test	Result - Remark	Verdict																												
	<table border="1"> <thead> <tr> <th>Type of equipment</th> <th>Terminal A of measuring instrument connected to:</th> <th>Maximum TOUCH CURRENT mA r.m.s. 1)</th> <th>Maximum PROTECTIVE CONDUCTOR CURRENT</th> </tr> </thead> <tbody> <tr> <td>ALL equipment</td> <td>ALL equipment Accessible parts and circuits not connected to protective earth</td> <td>0,25</td> <td>-</td> </tr> <tr> <td>HAND-HELD</td> <td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td> <td>0,75</td> <td>-</td> </tr> <tr> <td>MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td> <td>3,5</td> <td>-</td> </tr> <tr> <td>ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td> <td>3.5 -</td> <td>- 5 % of input current</td> </tr> <tr> <td>HAND-HELD</td> <td rowspan="2">Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td> <td>0,5</td> <td>-</td> </tr> <tr> <td>Others</td> <td>1.0</td> <td>-</td> </tr> </tbody> </table>	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. 1)	Maximum PROTECTIVE CONDUCTOR CURRENT	ALL equipment	ALL equipment Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3.5 -	- 5 % of input current	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-	Others	1.0	-		
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	1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.																														

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	<p>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 apply:</p> <ul style="list-style-type: none"> - 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 	Added.	N/A
W.1	<p>Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthened (floating) circuit is not the same as between CLASS I EQUIPMENT, 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.</p>	Added.	N/A
Annex JA	<p>Add a new annex JA with the following contents.</p> <p style="text-align: center;">Annex JA (normative)</p> <p style="text-align: center;">Document shredding machines</p> <p>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.</p>		N/A
JA.1	<p>Markings and instructions</p> <p>The symbol</p>  (JIS S 0101:2000, 6.2.4) 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; <ul style="list-style-type: none"> - 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 		N/A

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>section for shredding when touching the document-slot;</p> <p>- in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.</p>		
JA.2	<p>Inadvertent reactivation</p> <p>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.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1</p>		N/A
JA.3	<p>Disconnection from the mains supply</p> <p>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.</p> <p>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.</p> <p>Compliance is checked by inspection.</p>		N/A
JA.4	<p>Protection against hazardous moving parts</p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p> <p>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.</p> <p>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.</p> <p>Before testing with the wedge-probe, remove</p>		N/A

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		

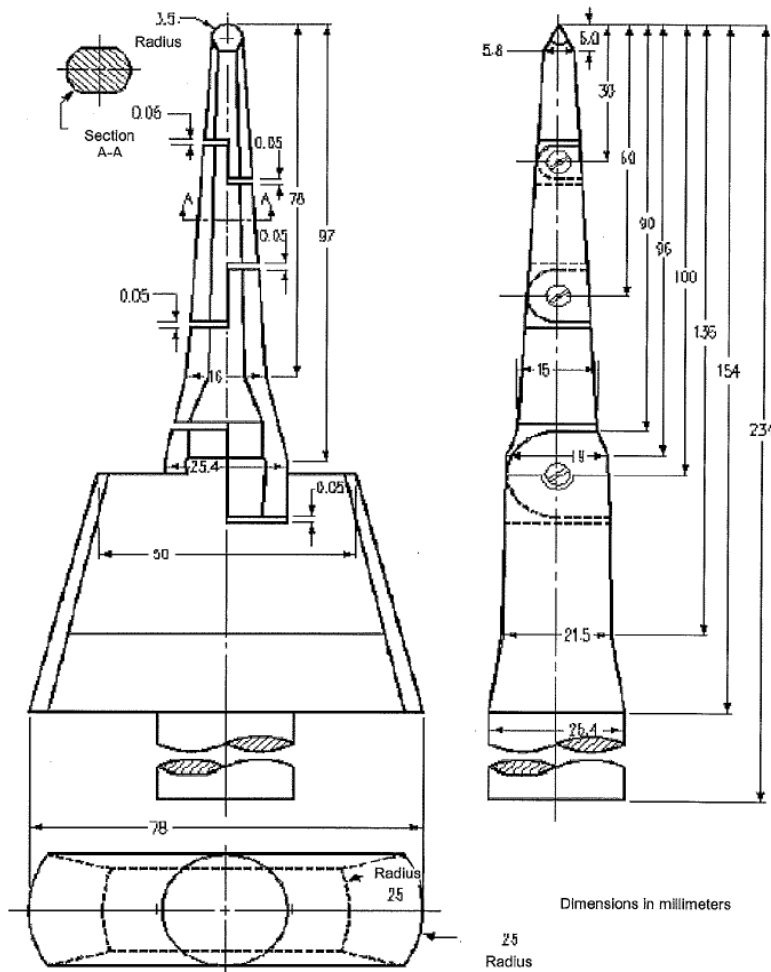
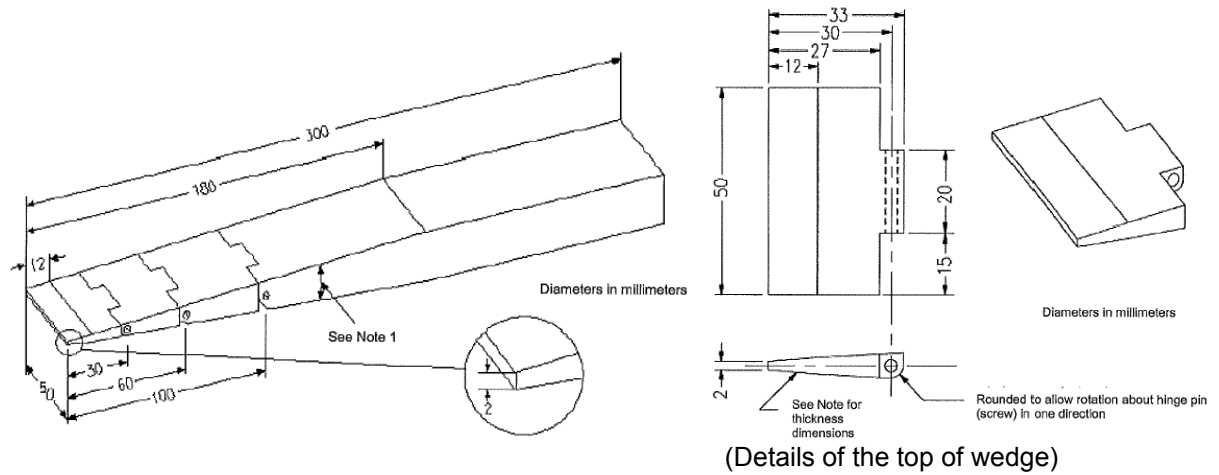


Figure JA.1 Test finger

National Differences to IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict



Distance from the top	Thickness of probe
0	2
12	4
180	24

Note 1 - The thickness of the probe varies linearly, with slope changes at the respective

points shown in the table.

Note 2 -The allowable dimensional tolerance of the probe is +/- 0.127 mm.

Product: Switching Power Supply

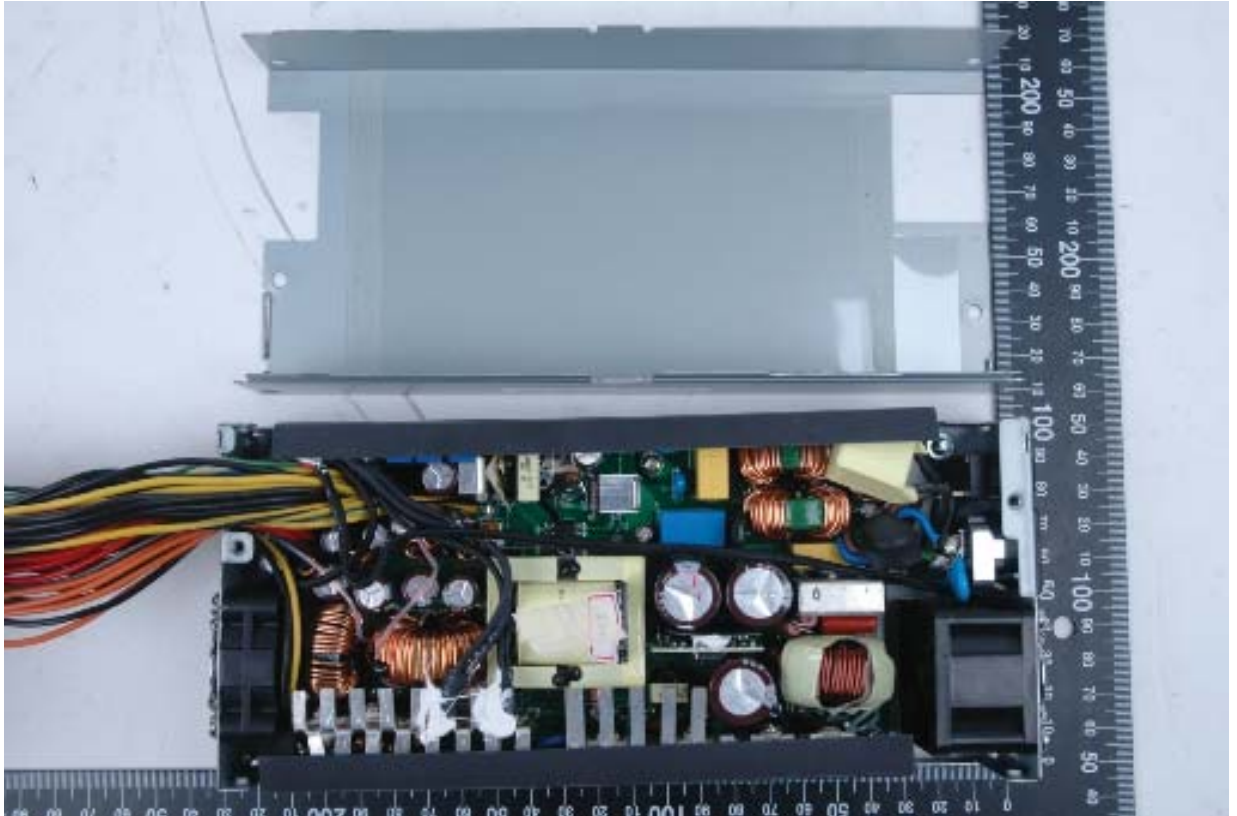
Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)

Model FSPxxx-701UH (Small I/O switch located near inlet, construction B)



Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



Model FSPxxx-701UH (Inlet fixed on chassis only, construction D)



Product: Switching Power Supply

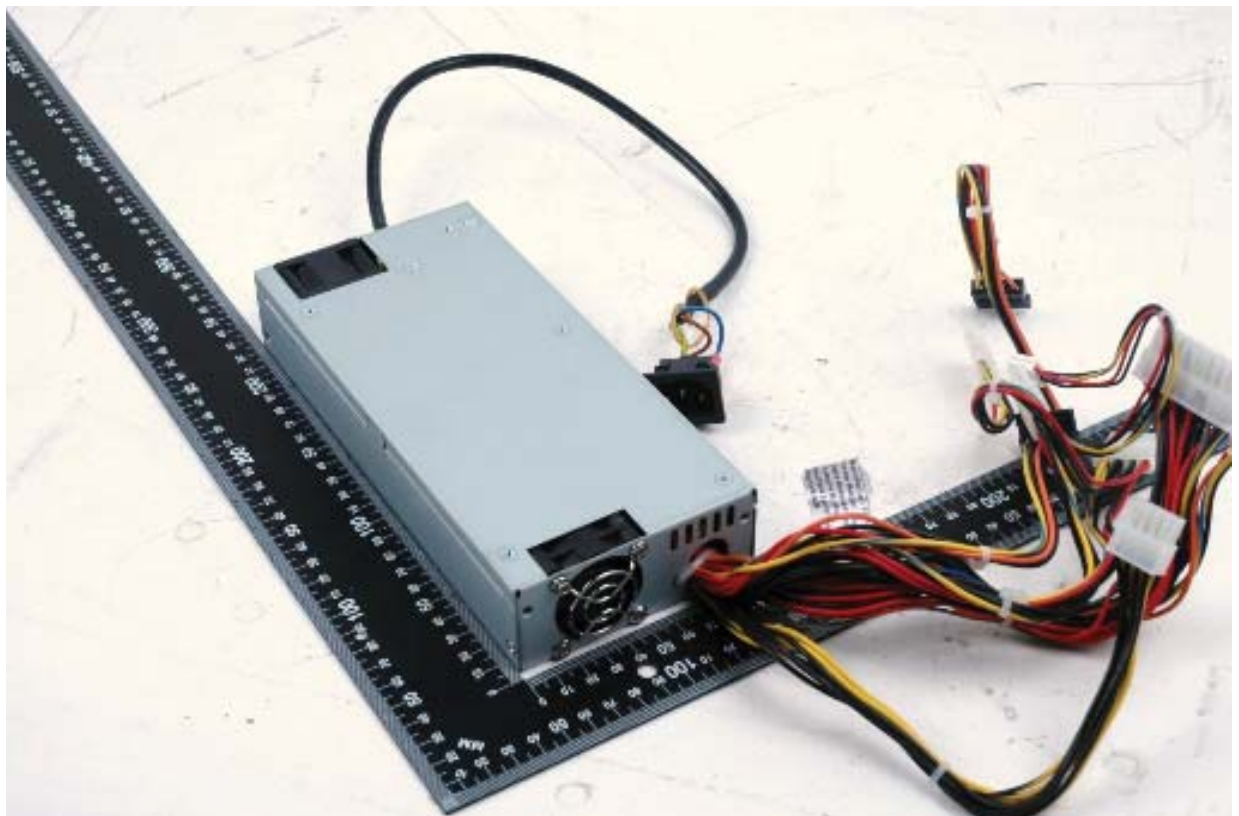
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Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)

Model FSPxxx-701UH (Inlet on flexible cord, construction A)



Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)

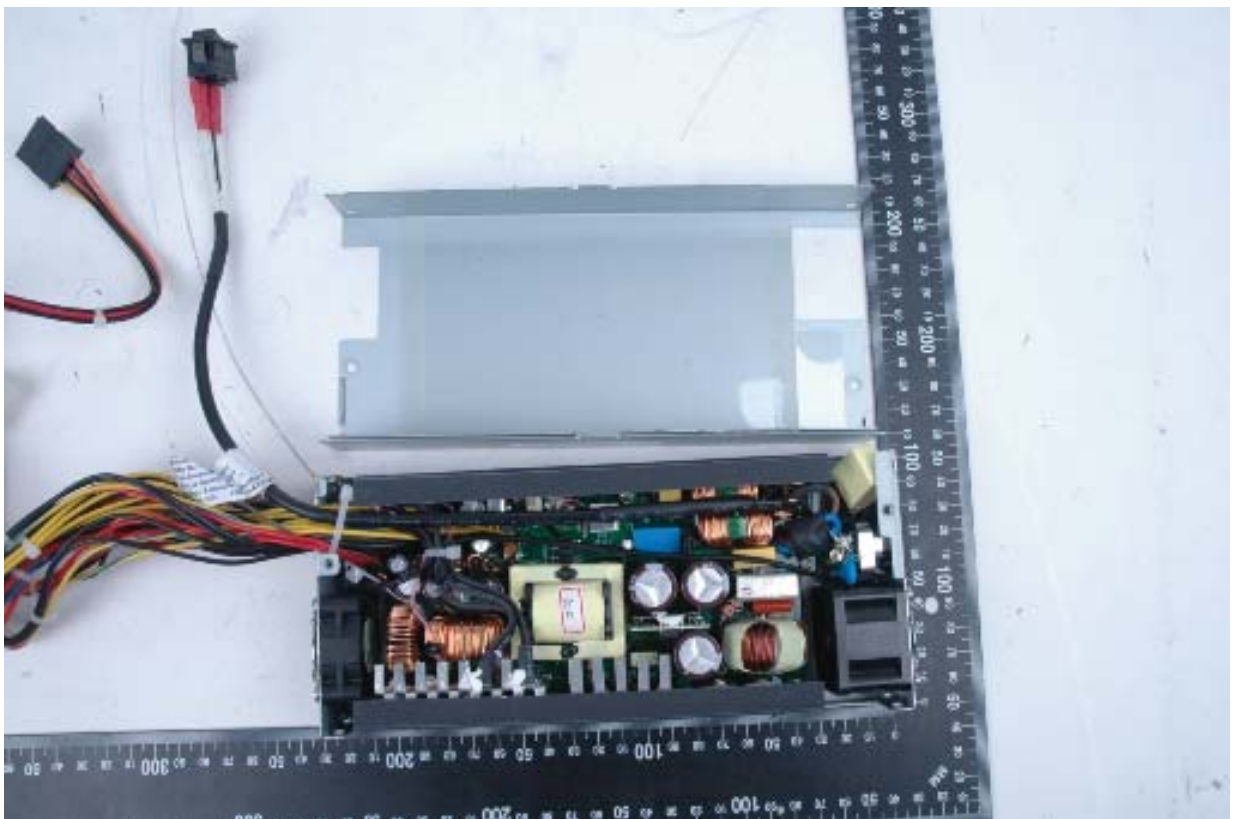
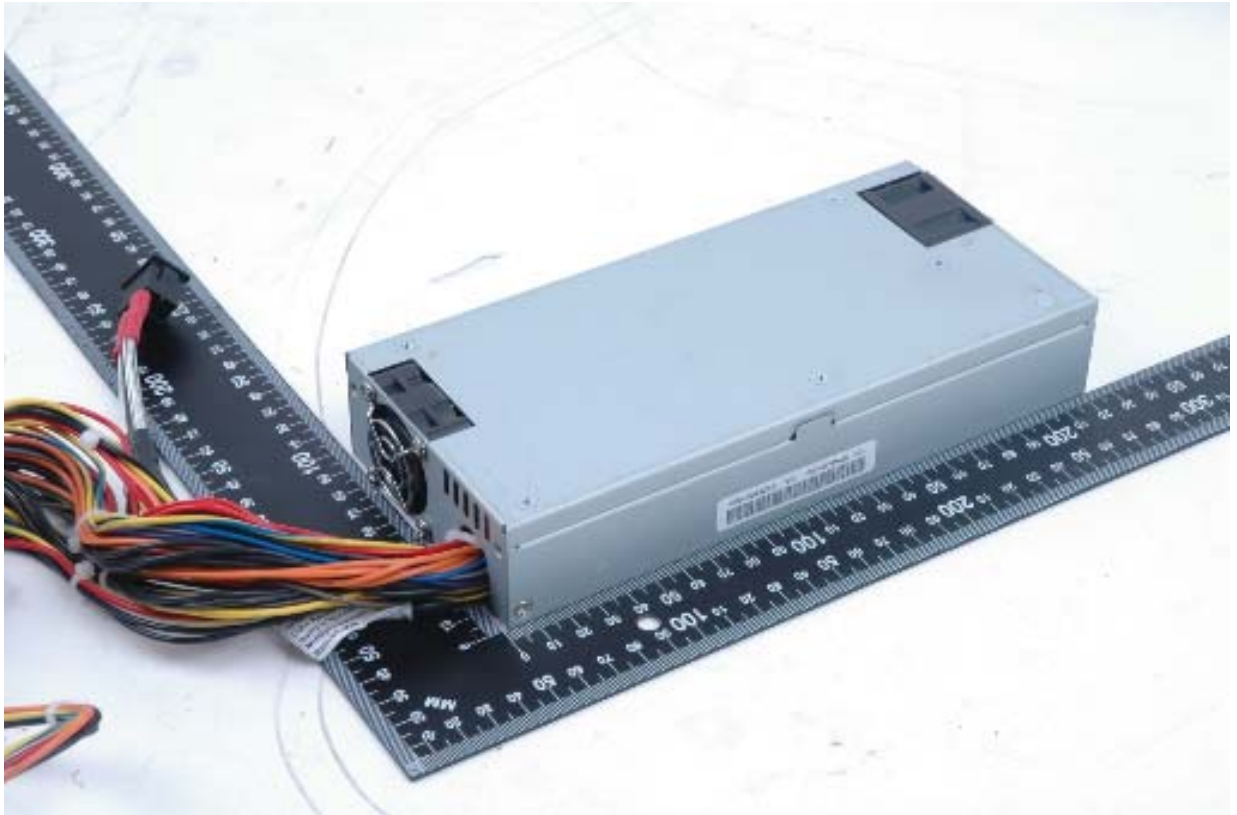


Model FSPxxx-701UH (Provided one flexible cord (near output side) for switch used, construction C)



Product: Switching Power Supply

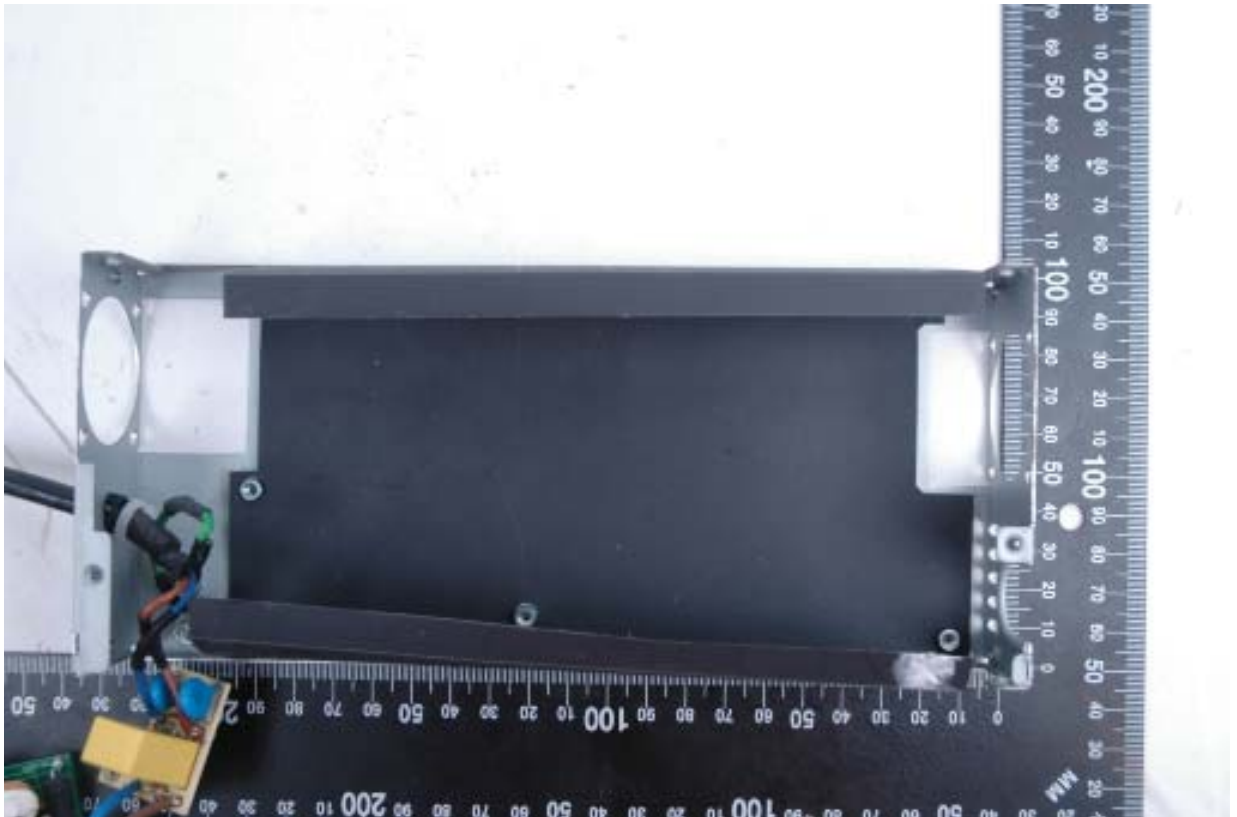
Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



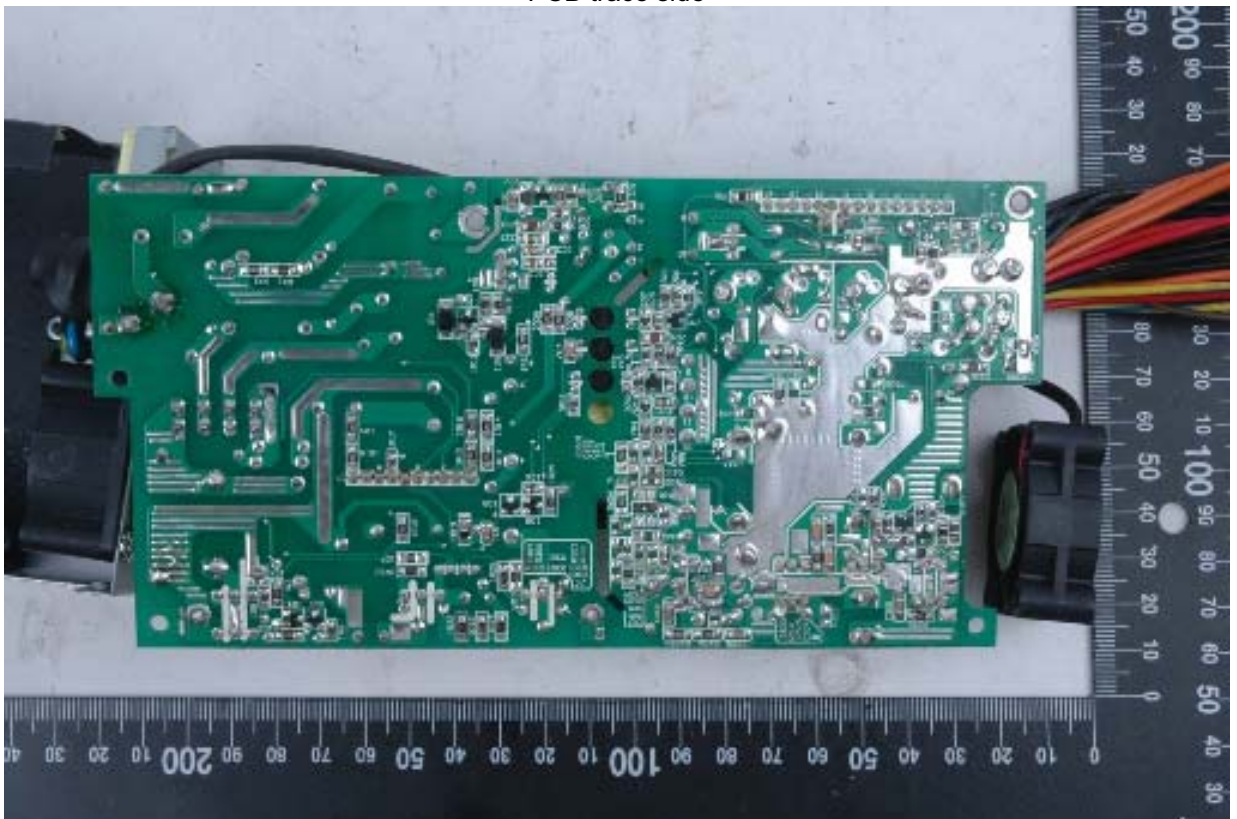
Bottom mylar sheet

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



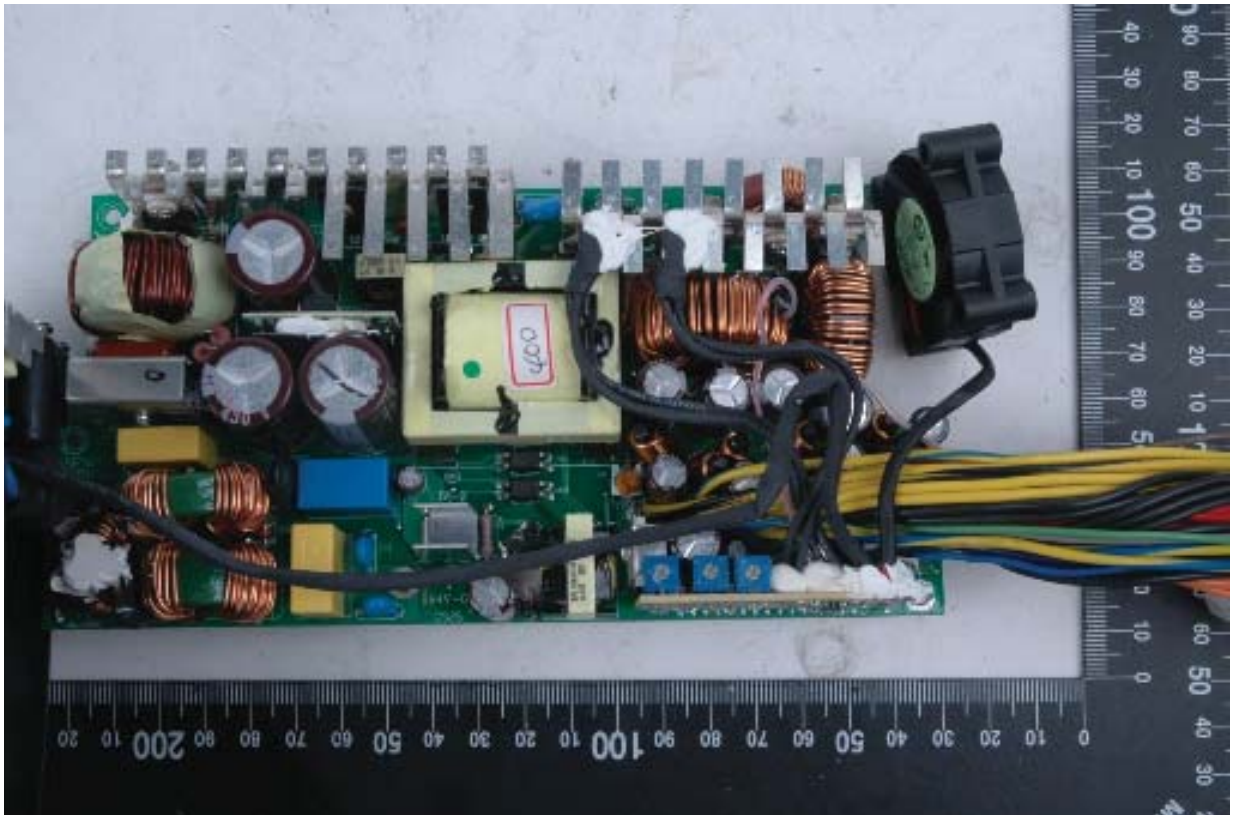
PCB trace side



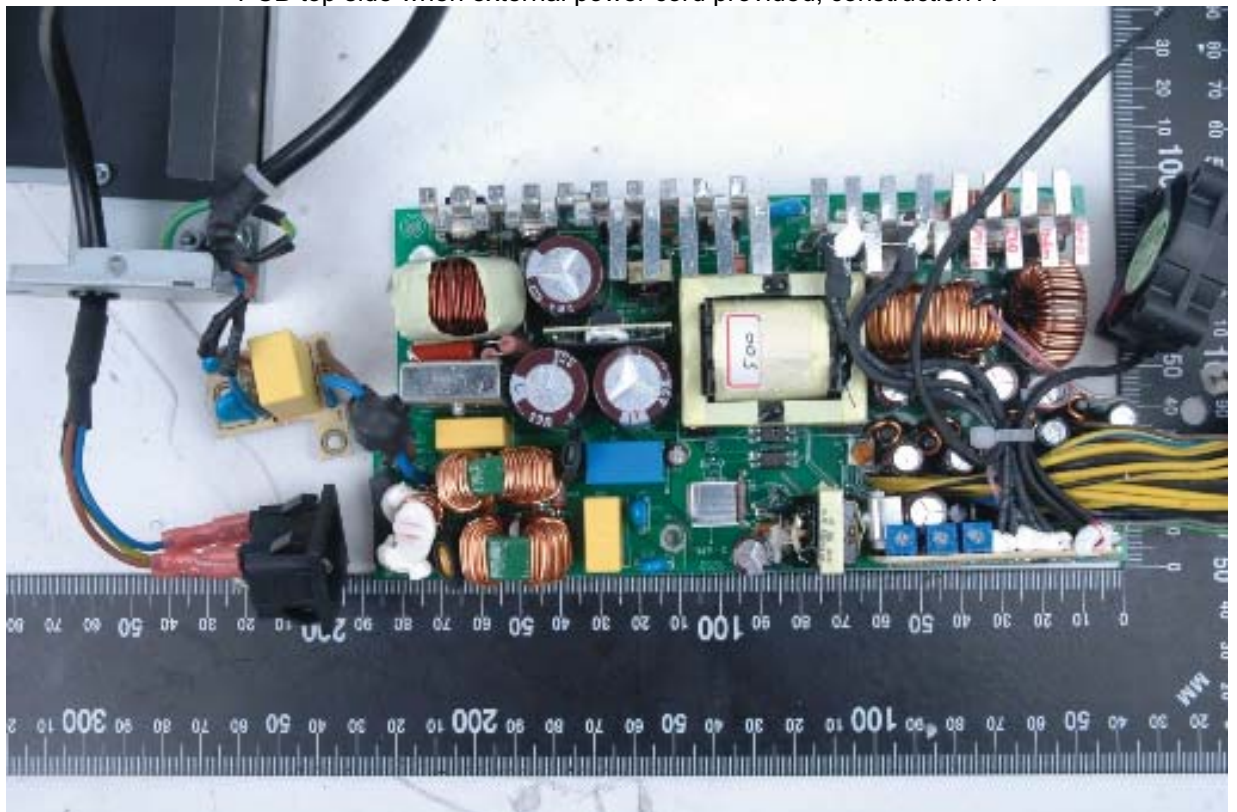
PCB top side

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



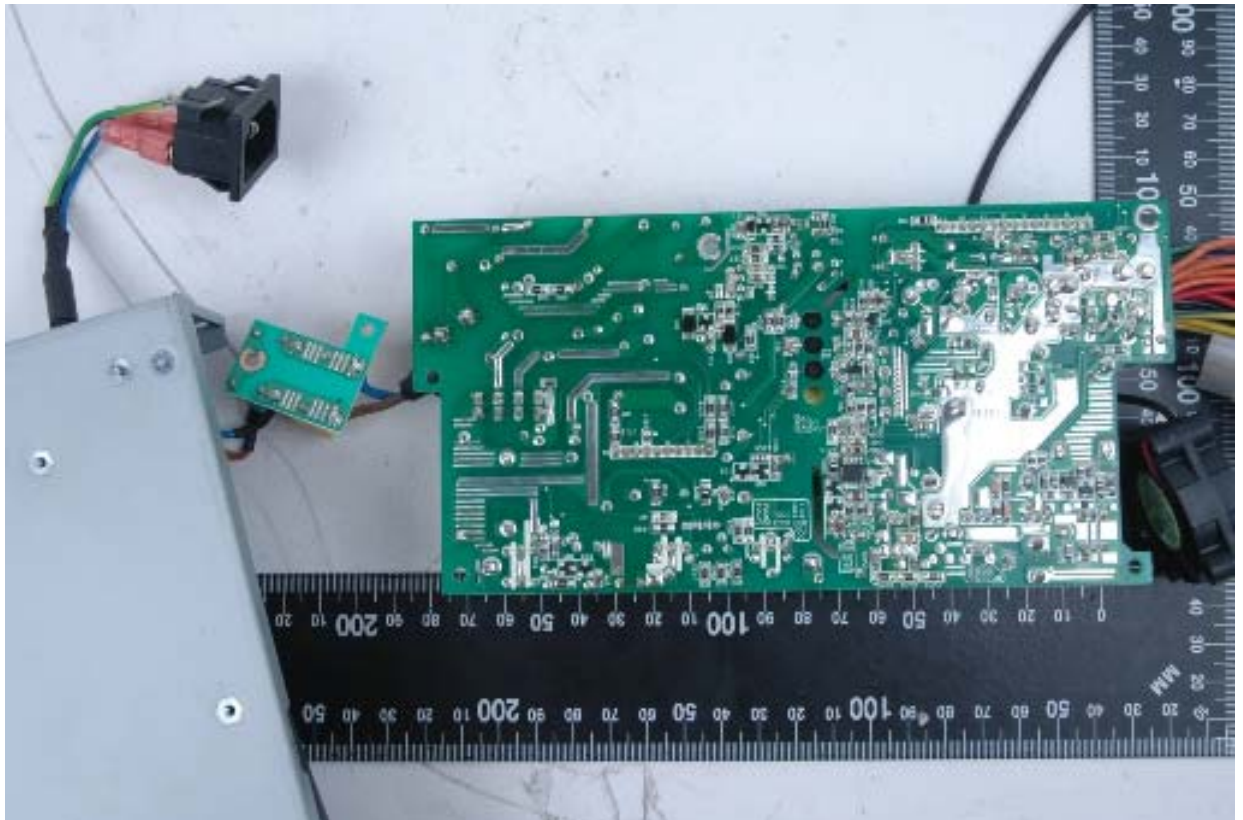
PCB top side when external power cord provided, construction A



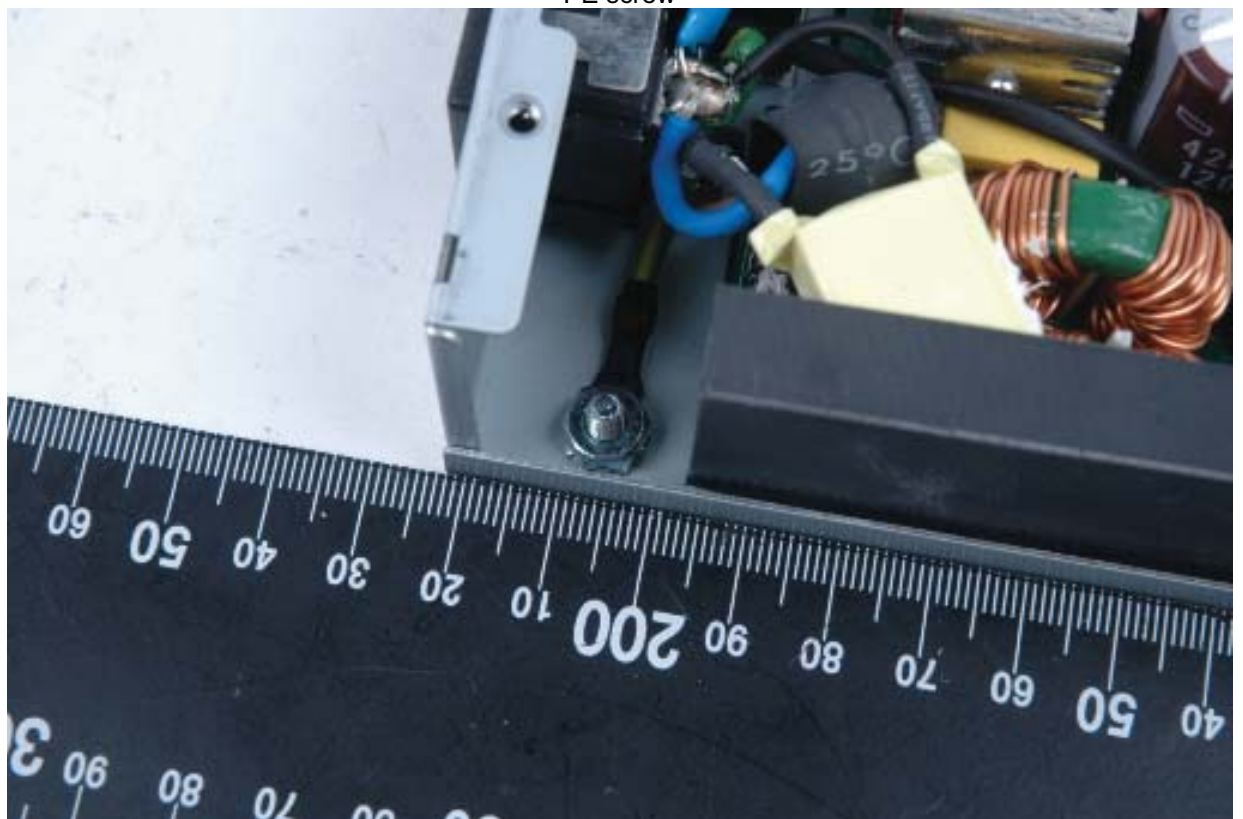
PCB trace side when external power cord provided, construction A

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



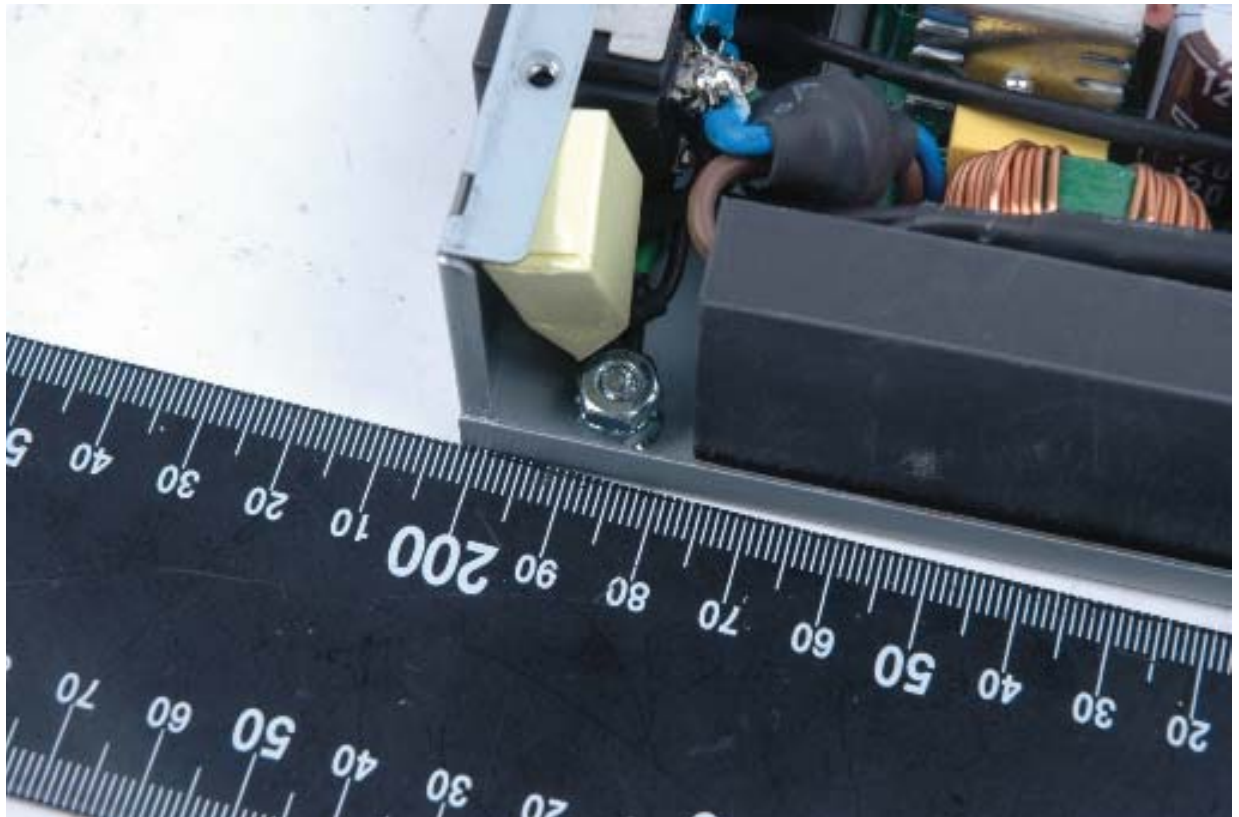
PE screw



PE screw when switch fixed on flexible cord, construction C

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



Model FSPyyy-702UH (Small I/O switch located near inlet, construction A)



FSPyyy-702UH (Inlet fixed on chassis only, construction B)

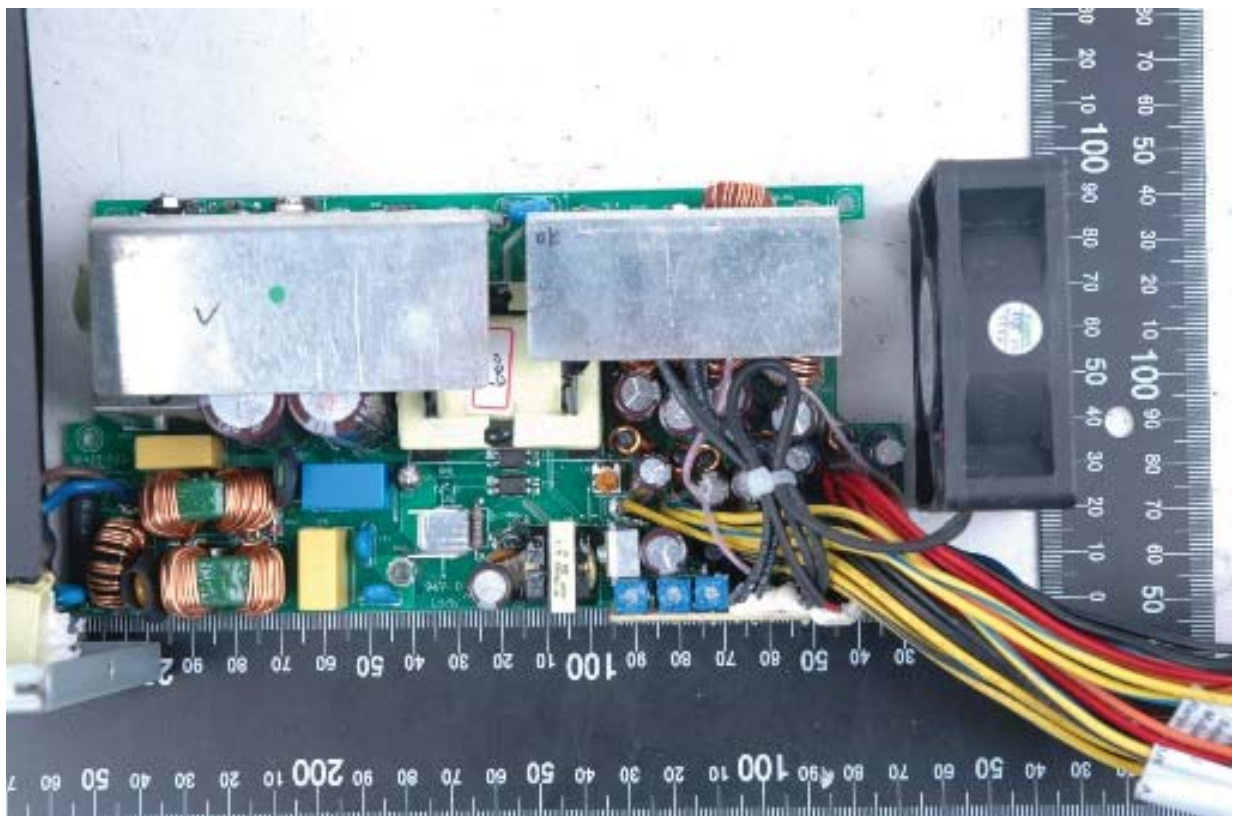
Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



Product: Switching Power Supply

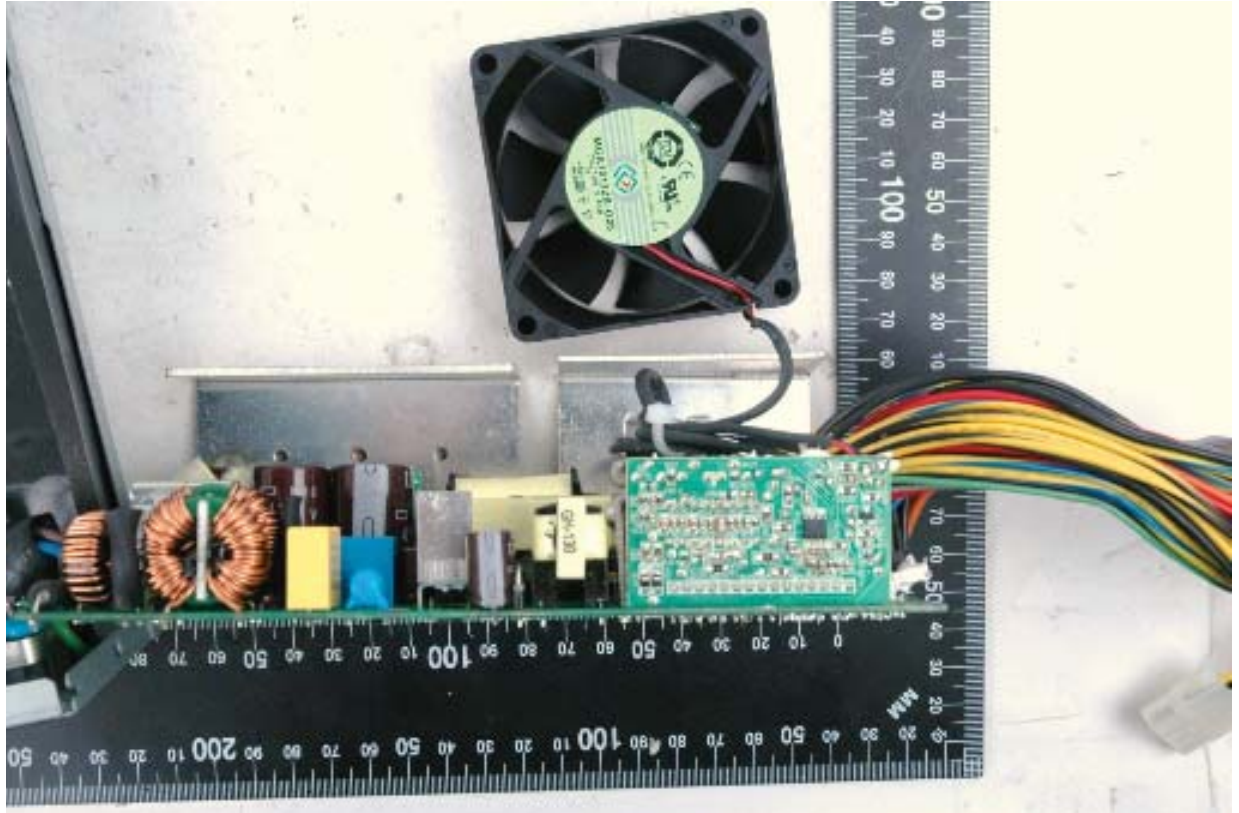
Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



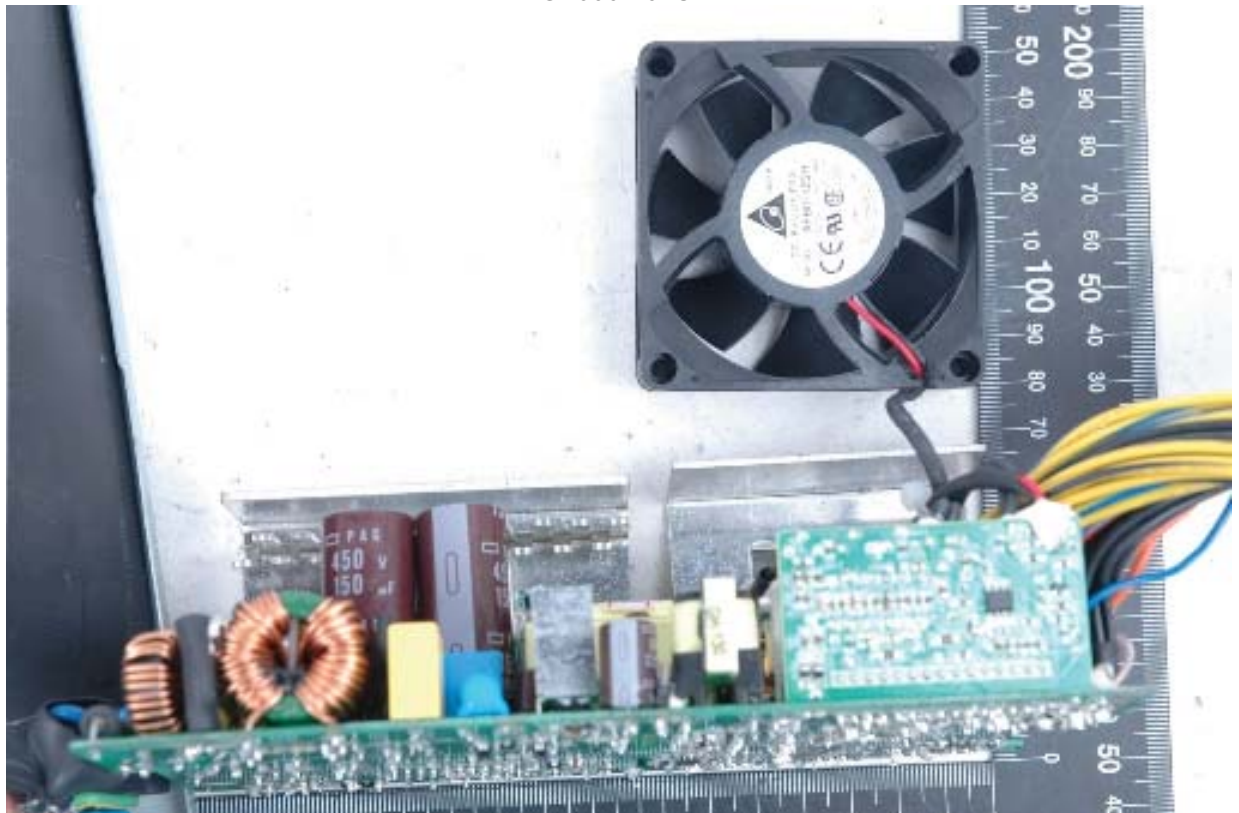
Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)

FSP500-702UH



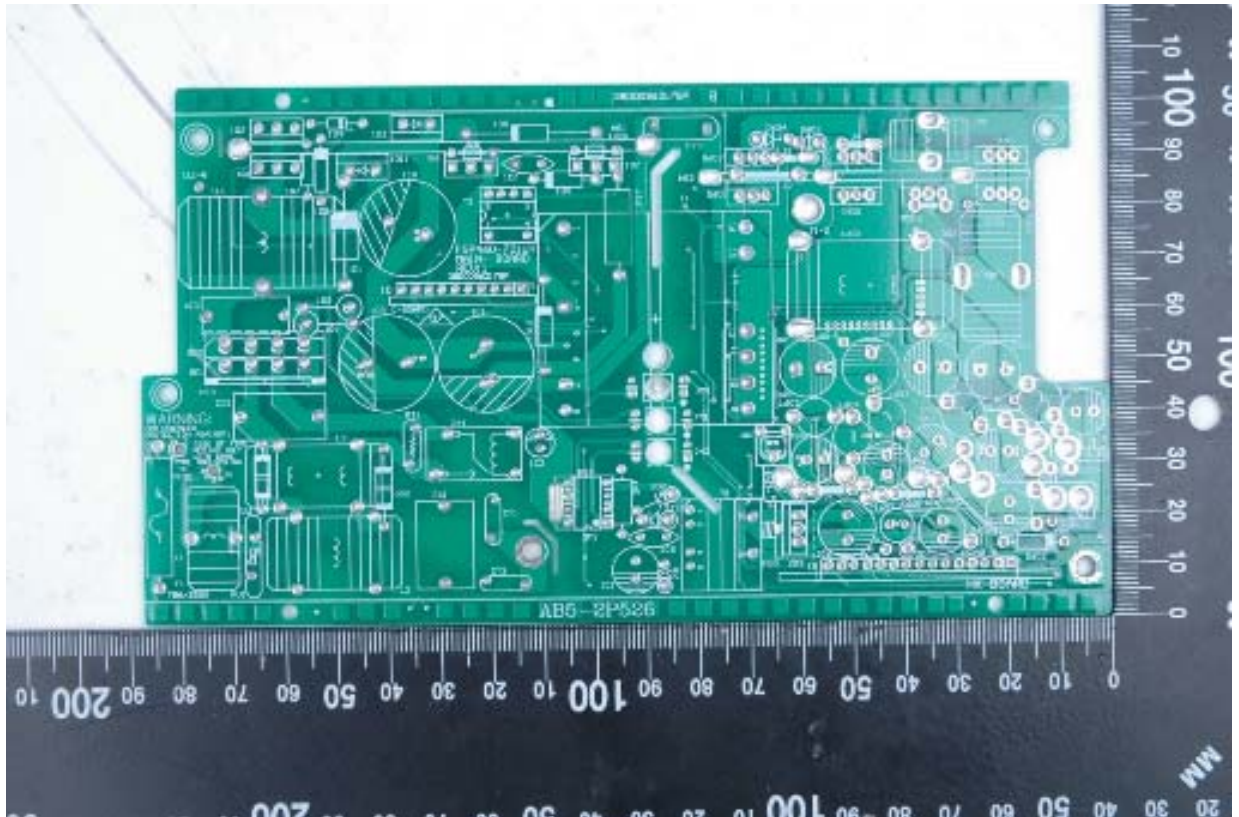
FSP600-702UH



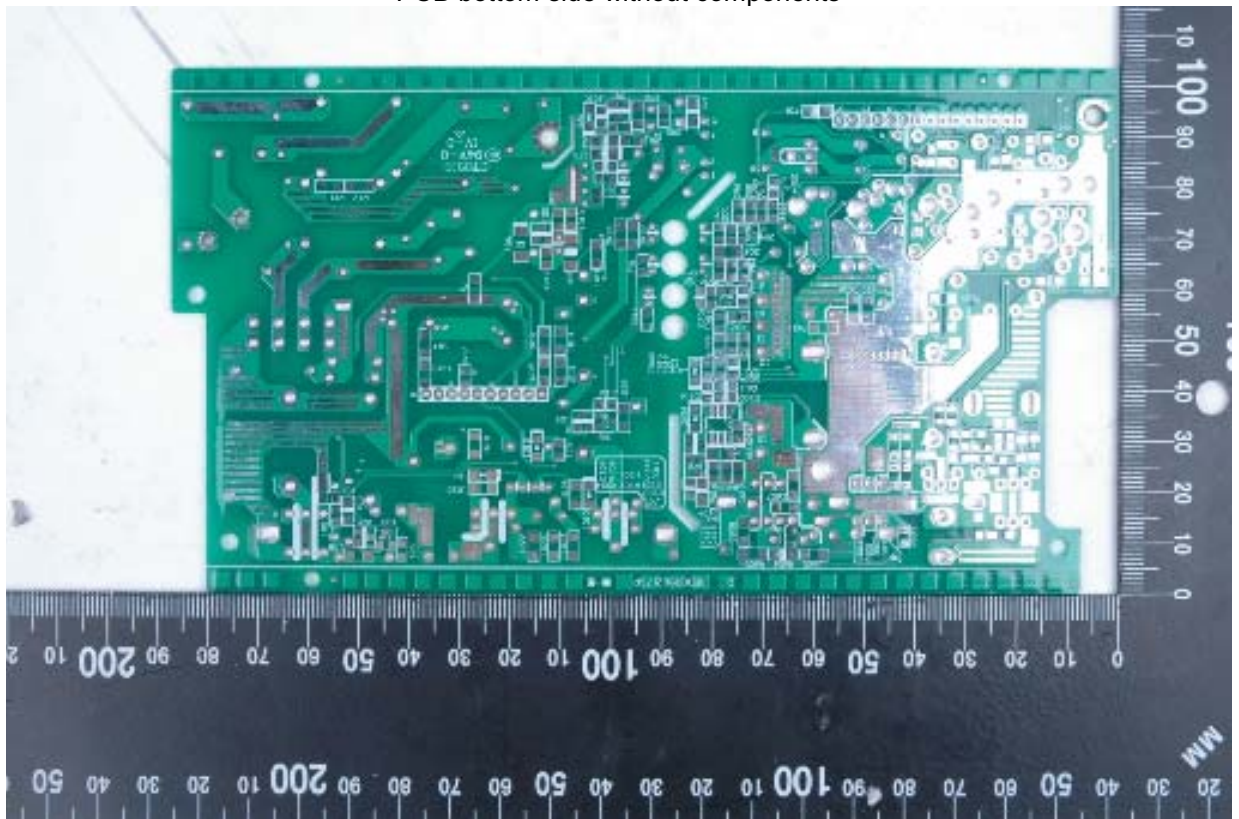
PCB top side without components

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



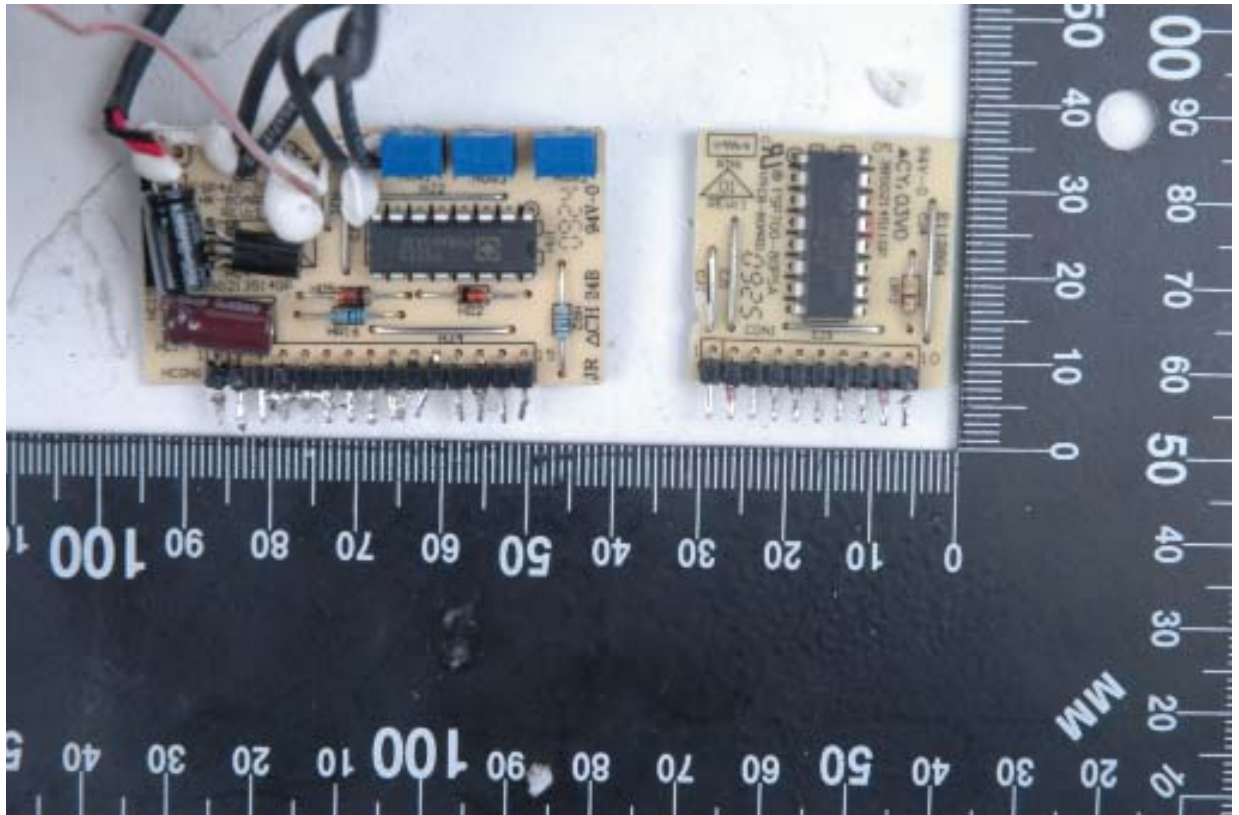
PCB bottom side without components



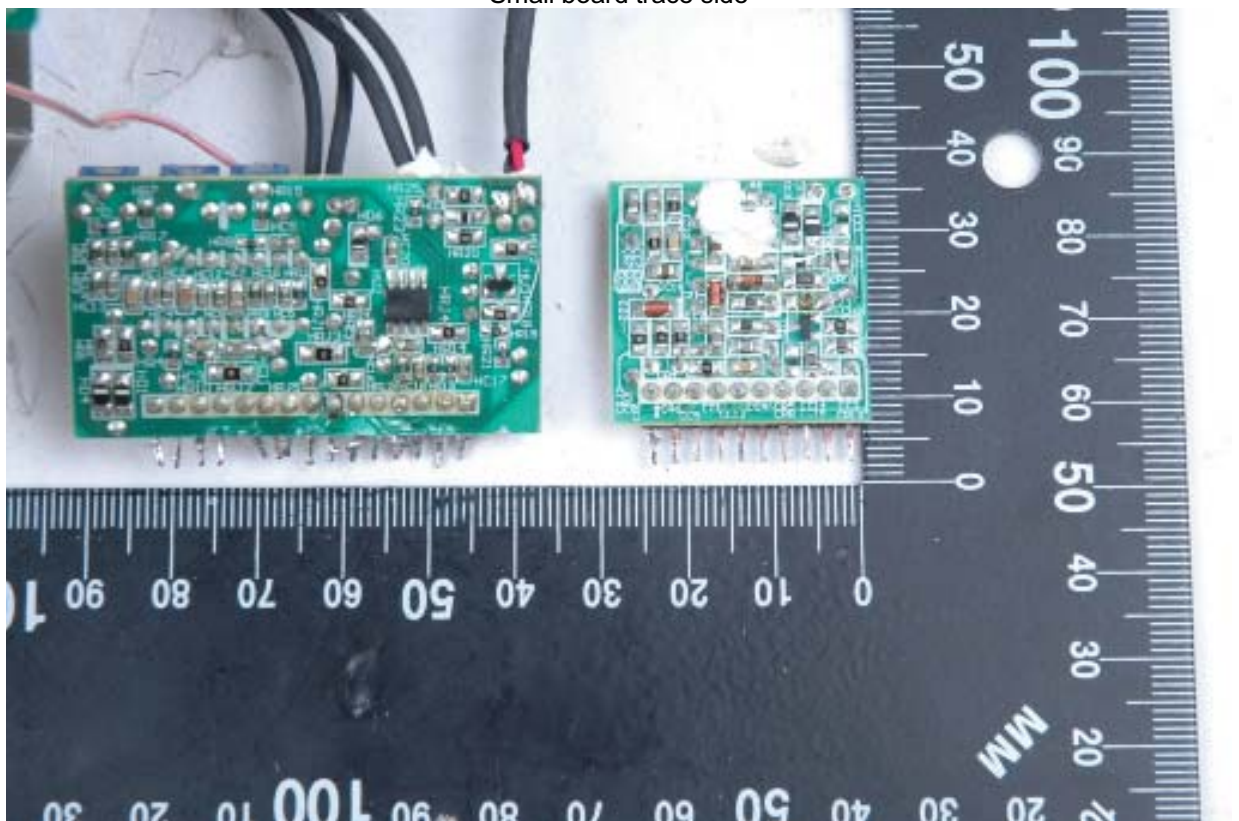
Small board top side

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)



Small board trace side



Mylar between T2 and HS5

Product: Switching Power Supply

Type Designation: FSPxxx-701UH (xxx=500, 460, 400), FSPyyy-702UH (yyy=500, 600)

