Report issued under the responsibility of:

intertek
Total Quality. Assured.

TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number.....:	101699486BOX-002
Date of issue.....:	2014-07-14; A6: 10/26/2017
Total number of pages.....:	8

Applicant's name .....:	Rapiscan Systems, Inc.
Address .....:	23 Frontage Road Andover, MA 01810 USA

Test specification:

Standard.....:	IEC 61010-1:2010 (Third Edition)
Test procedure.....:	CB Scheme
Non-standard test method.....:	N/A

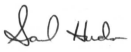
Test Report Form No.....:	IEC61010_1J
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
Master TRF .....:	2013-11

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description .....:	Explosives & Narcotics Detection & Identification System
Trade Mark.....:	Rapiscan systems An OSI Systems Company
Manufacturer .....:	Rapiscan Systems, Inc.
Model/Type reference.....:	Itemiser 4DX
Ratings .....:	**Power Supply:** 100-240VAC, 1.8A, 50/60Hz **Unit:** 11 -18VDC, 10A

Digitally signed by Acristinii Tudor
Date: 2024.12.10 11:20:27 EET
Reason: MoldSign Signature
Location: Moldova
MOLDOVA EUROPEANĂ

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	Intertek Testing Services NA, Inc	
Testing location/ address..... :		1950 Evergreen Blvd, Suite 100 Duluth, GA 30096 USA	
☐	**Associated CB Laboratory:**		
Testing location/ address..... :			
	Tested by (name + signature)..... :	Hakim Hasan	
	Approved by (name + signature)..... :	Samuel Hudson	
☐	**Testing procedure: TMP**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
☐	**Testing procedure: WMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Witnessed by (name + signature) ..... :		
	Approved by (name + signature)..... :		
☐	**Testing procedure: SMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
	Supervised by (name + signature) .... :		
☐	**Testing procedure: RMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
	Supervised by (name + signature) .... :		

List of Attachments (including a total number of pages in each attachment)		
Document No.	Documents included / attached to this report (description)	Page No.

Documents referenced by this report (available on request):		
Document Name or No.	Documents description	Page No.

Summary of testing:	
None	
Clause	**Comment**

Test Report History: This report may consist of more than one report and is valid only with additional or previous issued reports:	
Ref. No.	Item
Tests performed (name of test and test clause): No tests performed in this Amendment	**Testing location:** No tests performed in this Amendment
Summary of compliance with National Differences **List of countries addressed:** **CH CA, US, JP** ☒ **The product fulfils the requirements of __ CENELEC/IEC61010_1J 3rd Edition.**	

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.

Test item particulars:		
Type of item	:	Measurement
Description of equipment function	:	The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10ADC power source, intended to be installed indoors.
Connection to MAINS supply	:	External Certified Power Supply
Overvoltage category	:	II
POLLUTION DEGREE	:	2
Means of protection	:	Class I (PE connected) (PS), Class III (Unit)
Environmental conditions	:	Normal
For use in wet locations	:	No
Equipment mobility	:	Portable
Operating conditions	:	Continuous
Overall size of equipment (W x D x H)	:	470mm x 440mm x 400mm (with screen vertical)
Mass of equipment (kg)	:	12
Marked degree of protection to IEC 60529	:	IP20
Possible test case verdicts:		
- Test case does not apply to the test object	:	N/A (Not Applicable)
- Test object does meet the requirement	:	P (Pass)
- Test object does not meet the requirement	:	F (Fail)
Testing:		
Date of receipt of test item	:	N/A
Date (s) of performance of tests	:	N/A

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 Form A.xx)" refers to a table appended to the report.
Bottom lines for measurement tables Form A.xx are optional if used as record.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02

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.

Rapiscan Systems, Inc.
23 Frontage Road.
Andover, MA 01810 USA

General product information (Product Description):

The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10A power source, intended to be installed indoors.

A1: G101822382 – 2014-09-26: Page 9 Fix type error for DC-DC converter

A2: G102031996 – 2015-02-26: Page 1: Change name of Applicant's address to 23 Frontage Road, Andover, MA 01810 USA.
Page 7: Changed address to 23 Frontage Road, Andover, MA 01810, USA.

A3: G102275700 - 2015-09-02: Page1: IT4DX model name replaces Itemiser NR model name

A5: -G102796631 2016-11-30 Page 9 Change DC Fuseholder to CooperBussman or Interchangeable, PN: HTB36I or Interchangeable, CAN 16A 250V, US 20A 250V 1⁄4" x 1 1⁄4" fuse size.
Change fuse to Littlefuse or Interchangeable, PN: 0314015.MXP or Interchangeable, 15A 125VDC fast blow

A6: G103265336 – 2017-10-26: Page 1: Change name of Applicant and Manufacturer from Morpho Detection LLC to Rapiscan Systems, Inc. Page 1 and 6: Added new trade mark and marking plate

Description of model differences.

Description of special features.

Report issued under the responsibility of:

Intertek Testing Services NA Inc.

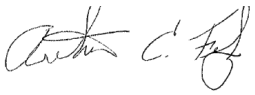
TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number.....:	101699486BOX-002
Date of issue.....:	2014-07-14; A5: 2016-11-30
Total number of pages.....:	9
Applicant's name .....:	Morpho Detection LLC
Address .....:	23 Frontage Road Andover, MA 01810 USA
Test specification:	
Standard.....:	IEC 61010-1:2010 (Third Edition)
Test procedure .....:	CB Scheme
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC61010_1J
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
Master TRF .....:	2013-11

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description .....:	Explosives & Narcotics Detection & Identification System
Trade Mark.....:	SAFRAN
Manufacturer .....:	Morpho Detection LLC
Model/Type reference.....:	Itemiser 4DX
Ratings .....:	**Power Supply:** 100-240VAC, 1.8A, 50/60Hz **Unit:** 11 -18VDC, 10A

Testing procedure and testing location:		
☒ **CB Testing Laboratory:**	Intertek Testing Services NA, Inc	
Testing location/ address..... :	70 Codman Hill Rd. Boxborough MA 01719 USA	
☐ **Associated CB Laboratory:**		
Testing location/ address..... :		
Tested by (name + signature)..... :	**Arthur C. Filz**	
Approved by (name + signature)..... :	**Peter Sedor**	
☐ **Testing procedure: TMP**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
☐ **Testing procedure: WMT**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Witnessed by (name + signature) ..... :		
Approved by (name + signature)..... :		
☐ **Testing procedure: SMT**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
Supervised by (name + signature) .... :		
☐ **Testing procedure: RMT**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
Supervised by (name + signature) .... :		

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

Document No.	Documents included / attached to this report (description)	Page No.
Attachment 1	Country Deviations	88 - 102
Attachment 2	Photos	103 - 104
Attachment 3	CB Certificates	105 - 107
Attachment 4	IP20 Test Data Sheet	108

Documents referenced by this report (available on request):

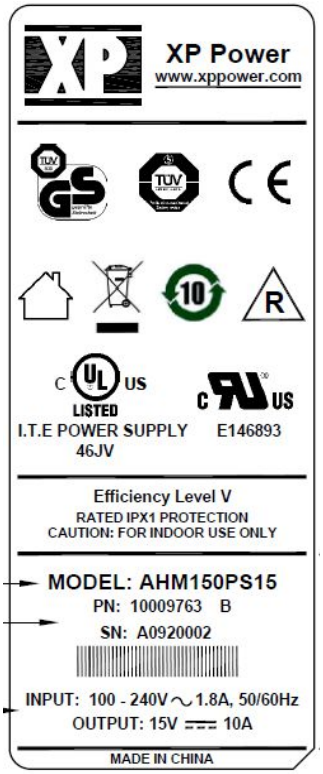
Document Name or No.	Documents description	Page No.
3077251	Intertek CB Test Report	78
101083788BOX-002	Intertek CB Test Report	112

Summary of testing: None	
Clause	**Comment**

Test Report History: This report may consist of more than one report and is valid only with additional or previous issued reports:	
Ref. No.	Item
Tests performed (name of test and test clause): None	**Testing location:** **70 Codman Hill Rd.** **Boxborough MA 01719 USA**
Summary of compliance with National Differences **List of countries addressed:** **CH CA, US, JP** ☒ **The product fulfils the requirements of __ CENELEC/IEC61010_1J 3rd Edition.**	

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.



Fuse Marking

F15A-125VDC (3AB)

Test item particulars:	
Type of item ..... :	Measurement
Description of equipment function..... :	The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10ADC power source, intended to be installed indoors.
Connection to MAINS supply..... :	External Certified Power Supply
Overvoltage category..... :	II
POLLUTION DEGREE..... :	2
Means of protection ..... :	Class I (PE connected) (PS), Class III (Unit)
Environmental conditions..... :	Normal
For use in wet locations ..... :	No
Equipment mobility ..... :	Portable
Operating conditions..... :	Continuous
Overall size of equipment (W x D x H) ..... :	470mm x 440mm x 400mm (with screen vertical)
Mass of equipment (kg) ..... :	12
Marked degree of protection to IEC 60529..... :	IP20
Possible test case verdicts:	
- Test case does not apply to the test object ..... :	N/A (Not Applicable)
- Test object does meet the requirement..... :	P (Pass)
- Test object does not meet the requirement..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	N/A
Date (s) of performance of tests ..... :	N/A
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 Form A.xx)" refers to a table appended to the report. Bottom lines for measurement tables Form A.xx are optional if used as record. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02	
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.	
Morpho Detection LLC 23 Frontage Road. Andover, MA 01810 USA	

General product information (Product Description):

The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10A power source, intended to be installed indoors.

A1: G101822382 – 2014-09-26: Page 9 Fix type error for DC-DC converter

A2: G102031996 – 2015-02-26: Page 1: Change name of Applicant's address to 23 Frontage Road, Andover, MA 01810 USA.
Page 7: Changed address to 23 Frontage Road, Andover, MA 01810, USA.

A3: G102275700 - 2015-09-02: Page1: IT4DX model name replaces Itemiser NR model name

A5: -G102796631 2016-11-30 Page 9 Change DC Fuseholder to CooperBussman or Interchangeable, PN: HTB36I or Interchangeable, CAN 16A 250V, US 20A 250V 1⁄4" x 1 1⁄4" fuse size.
Change fuse to Littlefuse or Interchangeable, PN: 0314015.MXP or Interchangeable, 15A 125VDC fast blow

Description of model differences.

Description of special features.

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

	TABLE 1: - List of components and circuits relied on for safety		P

Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)
Enclosure	Enclosure	GE Plastics	CYCOLOY C6200	V0	UL94	UL
Display	Display	CHIMEI InnoLux.	G104AGE-L02	5VDC and 12VDC Typ.	UL 1069	UR, CSA
Keyboard (not shown)	Keyboard (not shown)	Interchangeable	Interchangeable	5Vdc	Test per IEC 61010-1	NR
Heater (Not shown)	Heater (Not shown)	Minco	HM23123	33W @ 11V	UL 499	UL
Heater (Not shown)	Heater (Not shown)	Minco	HR5457	20W	UL 499	UL
DC to DC Convertor	DC to DC Convertor	Pico	15SMV900	1.25W, 15V in, 900V out	IEC 60950-1 2006, UL 1012	UL
DC to DC Convertor	DC to DC Convertor	Pico	12AV1500	1.25W, 12V in, 1.5KV out	IEC 60950-1 2006, UL 1012	UL
On/Off switch	On/Off switch	Interchangeable	Interchangeable	24VDC @ 10mA	UL 1024, CSA 22.2	RU, CSA
DC Fuseholder	DC Fuseholder	CooperBussman or Interchangeable	PN: HTB36I or Interchangeable	CAN 16A 250V, US 20A 250V 1⁄4" x 1 1⁄4" fuse size	UL 4248-1	RU, CSA
DC Fuse	DC Fuse	Littlefuse or Interchangeable	PN: 0314015.MXP or Interchangeable	15A 125VDC fast blow	UL248-14, IEC 60127	UL, CSA
PC Boards	PC Boards	Morpho Detection LLC	Interchangeable	V0	UL94	UR
Power Supply (not shown)	Power Supply (not shown)	XP Power	AHM150PS15	100-240VAC, 1.8A , 50/60Hz	EN60601-1:2006. UL60950-1, CSA60950-1	UR, CSA, TUV, GS

Report issued under the responsibility of:

Intertek Testing Services NA Inc.

TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number.....:	101699486BOX-002
Date of issue.....:	2014-07-14; A3: 09/15/2015
Total number of pages.....:	8
Applicant's name .....:	Morpho Detection LLC
Address .....:	23 Frontage Road Andover, MA 01810 USA
Test specification:	
Standard.....:	IEC 61010-1:2010 (Third Edition)
Test procedure .....:	CB Scheme
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC61010_1J
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
Master TRF .....:	2013-11

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description .....:	Explosives & Narcotics Detection & Identification System
Trade Mark.....:	SAFRAN
Manufacturer .....:	Morpho Detection LLC
Model/Type reference.....:	Itemiser 4DX
Ratings .....:	**Power Supply:** 100-240VAC, 1.8A, 50/60Hz **Unit:** 11 -18VDC, 10A

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	Intertek Testing Services NA, Inc	
Testing location/ address..... :		70 Codman Hill Rd. Boxborough MA 01719 USA	
☐	**Associated CB Laboratory:**		
Testing location/ address..... :			
	Tested by (name + signature)..... :	**Rodney Wright**	
	Approved by (name + signature)..... :	**Peter Sedor**	
☐	**Testing procedure: TMP**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
☐	**Testing procedure: WMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Witnessed by (name + signature) ..... :		
	Approved by (name + signature)..... :		
☐	**Testing procedure: SMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
	Supervised by (name + signature) .... :		
☐	**Testing procedure: RMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
	Supervised by (name + signature) .... :		

List of Attachments (including a total number of pages in each attachment)		
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Documents referenced by this report (available on request):		
Document Name or No.	Documents description	Page No.
3077251	Intertek CB Test Report	78
101083788BOX-002	Intertek CB Test Report	112

Summary of testing:	
None	
Clause	**Comment**

Test Report History: This report may consist of more than one report and is valid only with additional or previous issued reports:	
Ref. No.	Item
Tests performed (name of test and test clause): None	**Testing location:** **70 Codman Hill Rd.** **Boxborough MA 01719 USA**
Summary of compliance with National Differences **List of countries addressed:** **CH CA, US, JP** ☒ **The product fulfils the requirements of __ CENELEC/IEC61010_1J 3rd Edition.**	

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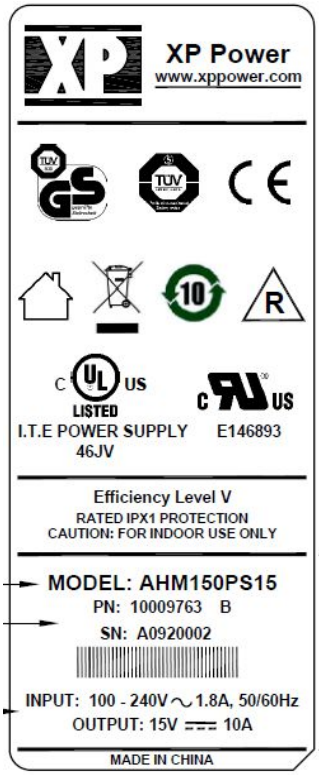

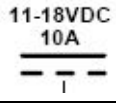

Test item particulars:	
Type of item ..... :	Measurement
Description of equipment function..... :	The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10ADC power source, intended to be installed indoors.
Connection to MAINS supply..... :	External Certified Power Supply
Overvoltage category..... :	II
POLLUTION DEGREE..... :	2
Means of protection ..... :	Class I (PE connected) (PS), Class III (Unit)
Environmental conditions..... :	Normal
For use in wet locations ..... :	No
Equipment mobility ..... :	Portable
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- Test object does meet the requirement..... :	P (Pass)
- Test object does not meet the requirement..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	N/A
Date (s) of performance of tests ..... :	N/A
General remarks:	
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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.	
Morpho Detection LLC 23 Frontage Road. Andover, MA 01810 USA	

General product information (Product Description):

The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10A power source, intended to be installed indoors.

A1: G101822382 – 2014-09-26: Page 9 Fix type error for DC-DC converter

A2: G102031996 – 2015-02-26: Page 1: Change name of Applicant's address to 23 Frontage Road, Andover, MA 01810 USA.
Page 7: Changed address to 23 Frontage Road, Andover, MA 01810, USA.

A3: G102275700 - 2015-09-02: Page1: IT4DX model name replaces Itemiser NR model name

A4: G102275700 - 2015-09-15: Page1: Itemiser 4DX model name replaces IT4DX model name

Description of model differences.

Description of special features.

Report issued under the responsibility of:

Intertek Testing Services NA Inc.

TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number.....:	101699486BOX-002
Date of issue.....:	2014-07-14; A2: 02/26/2015
Total number of pages.....:	8
Applicant's name .....:	Morpho Detection LLC
Address .....:	23 Frontage Road Andover, MA 01810 USA
Test specification:	
Standard.....:	IEC 61010-1:2010 (Third Edition)
Test procedure.....:	CB
Non-standard test method.....:	
Test Report Form No.....:	IEC61010_1J
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
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Test item description .....:	Explosives & Narcotics Detection & Identification System
Trade Mark.....:	SAFRAN
Manufacturer .....:	Morpho Detection LLC
Model/Type reference.....:	Itemiser NR
Ratings .....:	**Power Supply:** 100-240VAC, 1.8A, 50/60Hz **Unit:** 11 -18VDC, 10A

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	Intertek Testing Services NA, Inc	
Testing location/ address..... :		70 Codman Hill Rd. Boxborough MA 01719 USA	
☐	**Associated CB Laboratory:**		
Testing location/ address..... :			
	Tested by (name + signature)..... :	**Peter Sedor**	
	Approved by (name + signature)..... :	**Michael Brousseau**	
☐	**Testing procedure: TMP**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Approved by (name + signature)..... :		
☐	**Testing procedure: WMT**		
Testing location/ address..... :			
	Tested by (name + signature)..... :		
	Witnessed by (name + signature) ..... :		
	Approved by (name + signature)..... :		
☐	**Testing procedure: SMT**		
Testing location/ address..... :			
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	Approved by (name + signature)..... :		
	Supervised by (name + signature) .... :		
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Testing location/ address..... :			
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	Supervised by (name + signature) .... :		

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Document Name or No.	Documents description	Page No.
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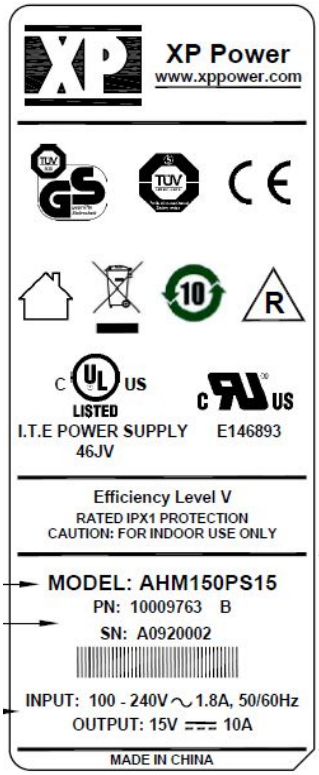
101083788BOX-002	Intertek CB Test Report	112

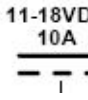
Summary of testing:	
None	
Clause	**Comment**

Test Report History: This report may consist of more than one report and is valid only with additional or previous issued reports:	
Ref. No.	Item
Tests performed (name of test and test clause): None	**Testing location:** **70 Codman Hill Rd.** **Boxborough MA 01719 USA**
Summary of compliance with National Differences **List of countries addressed:** **CH CA, US, JP** ☒ **The product fulfils the requirements of __ CENELEC/IEC61010_1J 3rd Edition.**	

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.





Test item particulars:	
Type of item ..... :	Measurement
Description of equipment function..... :	The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10ADC power source, intended to be installed indoors.
Connection to MAINS supply..... :	External Certified Power Supply
Overvoltage category..... :	II
POLLUTION DEGREE..... :	2
Means of protection ..... :	Class I (PE connected) (PS), Class III (Unit)
Environmental conditions..... :	Normal
For use in wet locations ..... :	No
Equipment mobility ..... :	Portable
Operating conditions..... :	Continuous
Overall size of equipment (W x D x H) ..... :	470mm x 440mm x 400mm (with screen vertical)
Mass of equipment (kg) ..... :	12
Marked degree of protection to IEC 60529..... :	IP20
Possible test case verdicts:	
- Test case does not apply to the test object ..... :	N/A (Not Applicable)
- Test object does meet the requirement..... :	P (Pass)
- Test object does not meet the requirement..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	N/A
Date (s) of performance of tests ..... :	N/A
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 Form A.xx)" refers to a table appended to the report. Bottom lines for measurement tables Form A.xx are optional if used as record. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02	
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.	
Morpho Detection LLC 23 Frontage Road. Andover, MA 01810 USA	

General product information (Product Description):

The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10A power source, intended to be installed indoors.

A1: G101822382 – 2014-09-26 – Page 9 Fix type error for DC-DC converter

A2: G102031996 – 2015-02-26: Page 1: Change name of Applicant's address to 23 Frontage Road, Andover, MA 01810 USA.
Page 7: Changed address to 23 Frontage Road, Andover, MA 01810, USA.

Description of model differences.

Description of special features.

Report issued under the responsibility of:

Intertek Testing Services NA Inc.

TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number.....:	101699486BOX-002
Date of issue.....:	2014-07-14, A1: 2014-09-26
Total number of pages.....:	10
Applicant's name .....:	Morpho Detection LLC
Address .....:	205 Lowell Street Wilmington MA 01887 USA
Test specification:	
Standard.....:	IEC 61010-1:2010 (Third Edition)
Test procedure.....:	CB
Non-standard test method.....:	
Test Report Form No.....:	IEC61010_1J
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
Master TRF .....:	2013-11

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description .....:	Explosives & Narcotics Detection & Identification System
Trade Mark.....:	Itemiser®
Manufacturer .....:	Morpho Detection LLC
Model/Type reference.....:	Itemiser NR
Ratings .....:	**Power Supply:** 100-240VAC, 1.8A, 50/60Hz **Unit:** 11 -18VDC, 10A

Testing procedure and testing location:		
☒ **CB Testing Laboratory:**	Intertek Testing Services NA, Inc	
Testing location/ address..... :	70 Codman Hill Rd. Boxborough MA 01719 USA	
☐ **Associated CB Laboratory:**		
Testing location/ address..... :		
Tested by (name + signature)..... :	**Arthur C. Filz**	
Approved by (name + signature)..... :	**Peter Sedor**	
☐ **Testing procedure: TMP**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
☐ **Testing procedure: WMT**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Witnessed by (name + signature) ..... :		
Approved by (name + signature)..... :		
☐ **Testing procedure: SMT**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
Supervised by (name + signature)..... :		
☐ **Testing procedure: RMT**		
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
Supervised by (name + signature)..... :		

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

Document No.	Documents included / attached to this report (description)	Page No.
Attachment 1	Country Deviations	88 - 102
Attachment 2	Photos	103 - 104
Attachment 3	CB Certificates	105 - 107
Attachment 4	IP20 Test Data Sheet	108

Documents referenced by this report (available on request):

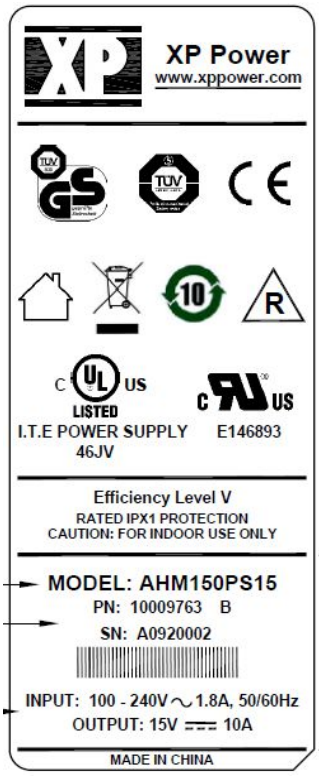
Document Name or No.	Documents description	Page No.
3077251	Intertek CB Test Report	78
101083788BOX-002	Intertek CB Test Report	112

Summary of testing: None	
Clause	**Comment**

Test Report History: This report may consist of more than one report and is valid only with additional or previous issued reports:	
Ref. No.	Item
Tests performed (name of test and test clause): None	**Testing location:** **70 Codman Hill Rd.** **Boxborough MA 01719 USA**
Summary of compliance with National Differences **List of countries addressed:** **CH CA, US, JP** ☒ **The product fulfils the requirements of __ CENELEC/IEC61010_1J 3rd Edition.**	

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.



Test item particulars:	
Type of item ..... :	Measurement
Description of equipment function..... :	The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10ADC power source, intended to be installed indoors.
Connection to MAINS supply..... :	External Certified Power Supply
Overvoltage category..... :	II
POLLUTION DEGREE..... :	2
Means of protection ..... :	Class I (PE connected) (PS), Class III (Unit)
Environmental conditions..... :	Normal
For use in wet locations ..... :	No
Equipment mobility ..... :	Portable
Operating conditions..... :	Continuous
Overall size of equipment (W x D x H) ..... :	470mm x 440mm x 400mm (with screen vertical)
Mass of equipment (kg) ..... :	12
Marked degree of protection to IEC 60529..... :	IP20
Possible test case verdicts:	
- Test case does not apply to the test object ..... :	N/A (Not Applicable)
- Test object does meet the requirement..... :	P (Pass)
- Test object does not meet the requirement..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	N/A
Date (s) of performance of tests ..... :	N/A
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 Form A.xx)" refers to a table appended to the report. Bottom lines for measurement tables Form A.xx are optional if used as record. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02	
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.	
Morpho Detection LLC 205 Lowell Street Wilmington MA 01887 USA	

General product information (Product Description):

The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10A power source, intended to be installed indoors.

A1: - G101822382 – 2014-09-26 – Page 9 Fix type error for DC-DC converter

Description of model differences.

Description of special features.

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

	TABLE 1: - List of components and circuits relied on for safety		P

Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)
Enclosure	Enclosure	GE Plastics	CYCOLOY C6200	V0	UL94	UL
Display	Display	CHIMEI InnoLux.	G104AGE-L02	5VDC and 12VDC Typ.	UL 1069	UR, CSA
Keyboard (not shown)	Keyboard (not shown)	Interchangeable	Interchangeable	5Vdc	Test per IEC 61010-1	NR
Heater (Not shown)	Heater (Not shown)	Minco	HM23123	33W @ 11V	UL 499	UL
Heater (Not shown)	Heater (Not shown)	Minco	HR5457	20W	UL 499	UL
DC to DC Convertor	DC to DC Convertor	Pico	15SMV900	1.25W, 15V in, 900V out	IEC 60950-1 2006, UL 1012	UL
DC to DC Convertor	DC to DC Convertor	Pico	12AV1500	1.25W, 12V in, 1.5KV out	IEC 60950-1 2006, UL 1012	UL
On/Off switch	On/Off switch	Interchangeable	Interchangeable	24VDC @ 10mA	UL 1024, CSA 22.2	RU, CSA
DC Fuseholder	DC Fuseholder	Interchangeable	Interchangeable	16A 250V, 5x20mm	UL 4248-1	RU, CSA
DC Fuse	DC Fuse	Interchangeable	Interchangeable	8A 250V 5x20mm time lag	UL248-14, IEC 60127	UL, CSA
PC Boards	PC Boards	Morpho Detection LLC	Interchangeable	V0	UL94	UR
Power Supply (not shown)	Power Supply (not shown)	XP Power	AHM150PS15	100-240VAC, 1.8A , 50/60Hz	EN60601-1:2006. UL60950-1, CSA60950-1	UR, CSA, TUV, GS

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

	TABLE 1: - List of components and circuits relied on for safety		P

Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)
Battery	Battery	Inspired Energy	NH2054MD31	Rechargeable Lithium ion Cell, 14.4 Vdc, 6,2Ah, 90Wh	IEC 62133	ETL
Power Cord (not Shown)	Power Cord (not Shown)	Interchangeable	Interchangeable	1250 Watts 10A-125V, 105°C	IEC 60320	UL, CSA

NOTE → 1 List all different manufacturers of the above components → 4 asterisk indicates mark assuring agreed level of surveillance
→ 2 May include electrical, mechanical values
→ 3 List licence no or method of acceptance

Report issued under the responsibility of:

Intertek Testing Services NA Inc.

TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number.....:	101699486BOX-002
Date of issue.....:	2014-07-14
Total number of pages.....:	108
Applicant's name .....:	Morpho Detection LLC
Address .....:	205 Lowell Street Wilmington MA 01887 USA
Test specification:	
Standard.....:	IEC 61010-1:2010 (Third Edition)
Test procedure.....:	CB
Non-standard test method.....:	
Test Report Form No.....:	IEC61010_1J
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
Master TRF .....:	2013-11

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Test item description .....:	Explosives & Narcotics Detection & Identification System
Trade Mark.....:	Itemiser®
Manufacturer .....:	Morpho Detection LLC
Model/Type reference.....:	Itemiser NR
Ratings .....:	**Power Supply:** 100-240VAC, 1.8A, 50/60Hz **Unit:** 11 -18VDC, 10A

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	Intertek Testing Services NA, Inc	
Testing location/ address..... :		70 Codman Hill Rd. Boxborough MA 01719 USA	
☐	**Associated CB Laboratory:**		
Testing location/ address..... :			
	Tested by (name + signature)..... :	**Arthur C. Filz**	
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Testing location/ address..... :			
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Summary of testing:

Cooling	4.4.2.10
- Air holes closed	
Input Test	5.1.3
Durability of Markings	5.3
Determination of Accessible Parts	6.2
Electric Shock Test "Normal Conditions"	6.3.1
Electric Shock Test "Single Fault Conditions"	6.3.2
Dielectric Voltage Withstand Test	6.8.4
Temperature Test	10.4
Cleaning Test	11.2

Clause	Comment

Test Report History: This report may consist of more than one report and is valid only with additional or previous issued reports:	
Ref. No.	Item

Tests performed (name of test and test clause):		**Testing location:**
Cooling	4.4.2.10	**70 Codman Hill Rd.** **Boxborough MA 01719 USA**
- Air holes closed		
Input Test	5.1.3	
Durability of Markings	5.3	
Determination of Accessible Parts	6.2	
Electric Shock Test "Normal Conditions"	6.3.1	
Electric Shock Test "Single Fault Conditions"	6.3.2	
Dielectric Voltage Withstand Test	6.8.4	
Temperature Test	10.4	
Cleaning Test	11.2	

Summary of compliance with National Differences

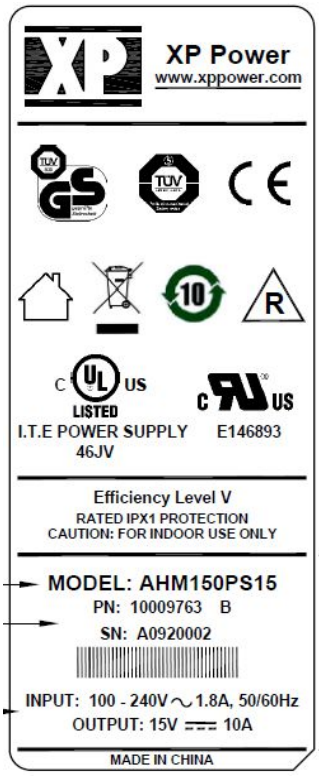
List of countries addressed:

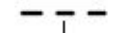
CH CA, US, JP

☒ **The product fulfils the requirements of __ CENELEC/IEC61010_1J 3rd Edition.**

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.





Test item particulars:	
Type of item ..... :	Measurement
Description of equipment function..... :	The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10ADC power source, intended to be installed indoors.
Connection to MAINS supply..... :	External Certified Power Supply
Overvoltage category..... :	II
POLLUTION DEGREE..... :	2
Means of protection ..... :	Class I (PE connected) (PS), Class III (Unit)
Environmental conditions..... :	Normal
For use in wet locations ..... :	No
Equipment mobility ..... :	Portable
Operating conditions..... :	Continuous
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Mass of equipment (kg) ..... :	12
Marked degree of protection to IEC 60529..... :	IP20
Possible test case verdicts:	
- Test case does not apply to the test object ..... :	N/A (Not Applicable)
- Test object does meet the requirement..... :	P (Pass)
- Test object does not meet the requirement..... :	F (Fail)
Testing:	
Date of receipt of test item ..... :	2014-06-30
Date (s) of performance of tests ..... :	2014-06-30 Through 2014-07-07
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 Form A.xx)" refers to a table appended to the report. Bottom lines for measurement tables Form A.xx are optional if used as record. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
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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.	
Morpho Detection LLC 205 Lowell Street Wilmington MA 01887 USA	

General product information (Product Description): The product covered in this report is an Explosives & Narcotics Detection & Identification System. Powered by a 100-240VAC to 15VDC, Single Phase, 10A power source, intended to be installed indoors.
Description of model differences.
Description of special features.

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

IEC 61010-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	TESTS		P
4.4	Testing in SINGLE FAULT CONDITIONS		P
4.4.1	Fault tests	(see Form A.1)	P
4.4.2	Application of SINGLE FAULT CONDITIONS		P
4.4.2.1	SINGLE FAULT CONDITIONS not covered by 4.4.2.2 to 4.4.2.14	(see Form A.1	—
4.4.2.2	PROTECTIVE IMPEDANCE		N/A
4.4.2.3	PROTECTIVE CONDUCTOR	(see Form A.6)	P
4.4.2.4	Equipment or parts for short-term or intermittent operation	Continuous operation	N/A
4.4.2.5	Motors	None provided	—
	– stopped while fully energized		N/A
	– prevented from starting		N/A
	– one phase interrupted (multi-phase)		N/A
4.4.2.6	Capacitors		N/A
4.4.2.7	MAINS transformers	Part of External Certified power supply	N/A
4.4.2.7.2	Short circuit		N/A
4.4.2.7.3	Overload		N/A
4.4.2.8	Outputs	External Certified power supply provided, Output connectors SELV	N/A
4.4.2.9	Equipment for more than one supply	Single source	N/A
4.4.2.10	Cooling	(see Form A.26A)	—
	– air holes closed		P
	– fans stopped		N/A
	– coolant stopped		N/A
	– loss of cooling liquid		N/A
4.4.2.11	Heating devices	Previously evaluated in Intertek report 3077251. Does not heat material	P
	– timer overridden		N/A
	– temperature controller overridden	No hazards	N/A
4.4.2.12	Insulation between circuits and parts		N/A
4.4.2.13	Interlocks	No safety interlocks provided	N/A
4.4.2.14	Voltage selectors		N/A
4.4.3	Duration of tests	(see Form A.1)	—
4.4.4	Conformity after application of fault conditions	(see Form A.1; A.6, A.18)	P

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

5	MARKING AND DOCUMENTATION		P
5.1.1	Required equipment markings	Mfg and Rating label	P
	– visible from the exterior; or	Markings are visible on the exterior of the unit P	P
	– visible after removing cover or opening door		P
	– visible after removal from a rack or panel	Not Rack mounted	N/A
	Not put on parts which can be removed by an operator	None	N/A
	Letter symbols (IEC 60027) used		N/A
	Graphic symbols (IEC 61010-1: Table 1) used	Symbols 2, 6, 9, 10, and 14	P
5.1.2	Identification		P
	Equipment is identified by:		—
	a) Manufacturer's or supplier's name or trademark	Name and trademark appear on unit	P
	b) Model number, name or other means	Model and serial number appear on unit	P
	Manufacturing location identified	Mfg and Rating label	P
5.1.3	MAINS supply		P
	Equipment is marked as follows:		—
	a) Nature of supply:		—
	1) a.c. RATED MAINS frequency or range of frequencies ..... :	On power supply label	—
	2) d.c. with symbol 1 ..... :	On rear panel 11-18VDC	—
	b) RATED supply voltage(s) or range ..... :	Marked on power supply	—
	c) Max. RATED power (W or VA) or input current ..... :	Marked on power supply and rear of unit	—
	The marked value not less than 90 % of the maximum value	(see Form A.2)	P
	If more than one voltage range:	Single range	—
	Separate values marked; or	Single value	N/A
	Values differ by less than 20 %		N/A
	d) OPERATOR-set for different RATED supply voltages:	Auto ranging	—
	Indicates the equipment set voltage		N/A
	Portable equipment indication is visible from the exterior		N/A
	Changing the setting changes the indication		N/A
	e) Accessory MAINS socket-outlets accepting standard MAINS plugs are marked:	None provided	—

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

	With the voltage if it is different from the MAINS supply voltage..... :		—
	For use only with specific equipment		N/A
	If not marked for specific equipment it is marked with:		—
	The maximum rated current or power; or		N/A
	Symbol 14 with full details in the documentation		N/A
5.1.4	Fuses	Markings provided	P
	Operator replaceable fuse marking (see also 5.4.5) ..... :		—
5.1.5	TERMINALS, connections and operating devices	All terminals and controls are labeled appropriately	P
5.1.5.1	General		—
	Where necessary for safety, indication of purpose of TERMINALS, connectors, controls and indicators marked		N/A
	If insufficient space, symbol 14 used	Not required	N/A
	Push-buttons and actuators of emergency stop devices and indicators:	None provided	—
	– used only to indicate a warning of danger; or	None provided	N/A
	– the need for urgent action		N/A
	– coloured red		N/A
	– coded as specified in IEC 60073		N/A
	Supplementary means of coding provided, if meaning of colour relates (see IEC 60073):		—
	– to safety of persons; or		N/A
	– safety of the environment		N/A
5.1.5.2	TERMINALS		—
	MAINS supply TERMINAL identified	Part of External Certified power supply	N/A
	Other TERMINAL marking:		—
	a) FUNCTIONAL EARTH TERMINALS (symbol 5 used)		N/A
	b) PROTECTIVE CONDUCTOR TERMINALS:		—
	Symbol 6 is placed close to or on the TERMINAL; or		N/A
	Part of appliance inlet		N/A
	c) TERMINALS of control circuits (symbol 7 used)		N/A
	d) HAZARDOUS LIVE TERMINALS supplied from the interior		N/A
	Standard MAINS socket outlet; or		N/A

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

	RATINGS marked; or		N/A
	Symbol 14 used		N/A
5.1.6	Switches and circuit breakers		P
	If disconnecting device, off position clearly marked	Markings provided	P
	If push-button used as power supply switch:		—
	– symbol 9 and 15 used for on-position	Symbol 9 provided	P
	– symbol 10 and 16 used for off-position	Symbol 10 provided	P
	– pair of symbols 9, 15 and 10, 16 close together		N/A
5.1.7	Equipment protected by DOUBLE INSULATION or REINFORCED INSULATION	External Certified Power Supply provided	N/A
	Protected throughout (symbol 11 used)	Class I	P
	Only partially protected (symbol 11 not used)		N/A
5.1.8	Field-wiring TERMINAL boxes	Detachable power cord provide with External Certified power supply	N/A
	If TERMINAL or ENCLOSURE exceeds 60 °C:		—
	Cable temperature RATING marked .....:		—
	Marking visible before and during connection or beside TERMINAL		N/A
5.2	Warning markings		P
	Visible when ready for NORMAL USE		P
	Are near or on applicable parts		N/A
	Symbols and text correct dimensions and colour:		—
	a) symbols min 2,75 mm and text 1,5 mm high and contrasting in colour with background		P
	b) symbols and text moulded, stamped or engraved in material min. 2,0 mm high and		N/A
	0,5 mm depth or raised if not contrasting in colour		N/A
	If necessary marked with symbol 14		N/A
	Statement to isolate or disconnect if access by using a tool to HAZARDOUS LIVE parts is permitted		N/A
5.3	Durability of markings		P
	The required markings remain clear and legible in NORMAL USE	(see Form A.3)	P
5.4	Documentation	Manual provided	P
5.4.1	General		P
	Equipment is accompanied by documentation for safety purposes for OPERATOR or RESPONSIBLE BODY		P

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	Safety documentation for service personnel authorized by the manufacturer		P
	Documentation necessary for safe operation is provided in printed media or		P
	in electronic media if available at any time	Available in PDF format	N/A
	Documentation includes:		—
	a) intended use		P
	b) technical specification		P
	c) name and address of manufacturer or supplier		P
	d) information specified in 5.4.2 to 5.4.6		P
	e) information to mitigate residual RISK (see also subclause 17)		N/A
	f) accessories for safe operation of the equipment specified		P
	g) guidance provided to check correct function of the equipment, if incorrect reading may cause a HAZARD from harmful or corrosive substances of HAZARDOUS live parts	Automated startup checks and calibration warnings to perform calibration until calibration is performed	P
	h) instructions for lifting and carrying		N/A
	Warning statements and a clear explanation of warning symbols:		—
	– provided in the documentation; or		P
	– information is marked on the equipment		P
5.4.2	Equipment ratings		P
	Documentation includes:		—
	a) Supply voltage or voltage range..... :	100-240VAC	—
	Frequency or frequency range ..... :	50/60Hz	—
	Power or current rating ..... :	1.8A (Power Supply); 10A unit	—
	b) Description of all input and output connections in accordance to 6.6.1 a)	Labeled. I/O low voltage	P
	c) RATING of insulation of external circuits in accordance to 6.6.1 b)		N/A
	d) Statement of the range of environmental conditions (see 1.4)		P
	e) Degree of protection (IEC 60529)	IP20	P
	f) If impact rating less than 5 J:	6J used	—
	IK code in accordance to IEC 62262 marked; or		N/A
	symbol 14 of table 1 marked, with		N/A

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	RATED energy level and test method stated		N/A
5.4.3	Equipment installation	Manual states “Provided by authorized personnel”	P
	Documentation includes instructions for:		—
	a) assembly, location and mounting requirements	No special requirements	N/A
	b) protective earthing	3 conductor power cord supplied with External Certified power supply	N/A
	c) connections to supply		P
	d) PERMANENTLY CONNECTED EQUIPMENT:	Not permanently connected	—
	1) Supply wiring requirements		N/A
	2) If external switch or circuit-breaker, requirements and location recommendation		N/A
	e) ventilation requirements		N/A
	f) special services (e. g. air, cooling liquid)		N/A
	g) instructions relating to sound level	No sound producing devices	N/A
5.4.4	Equipment operation	Documentation provided	P
	Instructions for use include:		—
	a) identification and description of operating controls		P
	b) positioning for disconnection		N/A
	c) instructions for interconnection		N/A
	d) specification of intermittent operation limits	Continuous operations	N/A
	e) explanation of symbols used		P
	f) replacement of consumable materials		P
	g) cleaning and decontamination		P
	h) listing of any poisonous or injurious gases and quantities	None provided	N/A
	i) RISK reduction procedures relating to flammable liquids (see 9.5)		N/A
	j) RISK reduction procedures relating burn from surfaces permitted to exceed limits of 10.1		N/A
	Additional precautions for IEC 60950 conforming equipment in regard to moistures and liquids		N/A
	A statement about protection impairment if used in a manner not specified by the manufacturer		N/A
5.4.5	Equipment maintenance and Service		P
	Instructions for RESPONSIBLE BODY include:		—

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	Instructions sufficient in detail permitting safe maintenance and inspection and continued safety:	Documentation provided	—
	Instruction against the use of detachable MAINS supply cord with inadequate rating		N/A
	Specific battery type of user replaceable batteries	Not user replaceable	N/A
	Any manufacturer specified parts		P
	Rating and characteristics of fuses	On back of unit	P
	Instructions include following subjects permitting safe servicing and continued safety:	Manual Preface states Read these instructions and all ancillary documentation entirely	—
	a) product specific RISKS may affect service personnel		P
	b) protective measures for these RISKS		P
	c) verification of the safe state after repair	States “contact your troubleshooting and repair personnel”	N/A
5.4.6	Integration into systems or effects resulting from special conditions	Standalone product	N/A
	Aspects described in documentation		N/A

6	PROTECTION AGAINST ELECTRIC SHOCK		P
6.1	General	(see Form A.14 and A.15)	P
6.1.1	Requirements		P
	Protection against electric shock maintained in NORMAL CONDITION and SINGLE FAULT CONDITION		P
	ACCESSIBLE parts not HAZARDOUS LIVE		P
	Voltage, current, charge or energy below the limits in NORMAL CONDITION and in SINGLE FAULT CONDITION between:		—
	ACCESSIBLE parts and earth		P
	two ACCESSIBLE parts on same piece of the equipment within a distance of 1,8 m	No Hazard	P
	Conformity is checked by the determination of 6.2 and 6.3 followed by the tests of 6.4 to 6.11		P
6.1.2	Exceptions		N/A
	Following HAZARDOUS LIVE parts may be ACCESSIBLE to an OPERATOR:	None provided	—
	a) parts of lamps and lamp sockets after lamp removal		N/A
	b) parts to be replaced by OPERATOR only by the use of tool and warning marking		P

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	Those parts not HAZARDOUS LIVE 10 s after interruption of supply		P
	Capacitance test if charge is received from internal capacitor	External Certified power supply provided	N/A
6.2	Determination of ACCESSIBLE parts	(see Form A.6)	P
6.2.1	General	Unit enclosure	P
	Unless obviously determination of ACCESSIBLE parts as specified in 6.2.2 to 6.2.4		P
6.2.2	Examination		P
	– with jointed test finger (as specified B.2)	See Attachment 4 for IP20 test data	P
	– with rigid test finger (as specified B.1) and a force of 10 N		P
6.2.3	Openings above parts that are HAZARDOUS LIVE		N/A
	– test pin with length of 100 mm and 4 mm in diameter applied		N/A
6.2.4	Openings for pre-set controls	None	N/A
	– test pin with length of 100 mm and 3 mm in diameter applied		N/A
6.3	Limit values for ACCESSIBLE parts		P
6.3.1	Levels in NORMAL CONDITION	(see Form A.5)	—

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	a) Voltage limits less than 33 V r.m.s. and 46,7 V peak or 70 V d.c.		P
	for WET LOCATIONS voltage limits less than 16 V r.m.s. and 22,6 V peak or 35 V d.c.	Not used in a wet location	N/A
	Voltages are not HAZARDOUS LIVE the levels of:		—
	b) Current less than 0,5 mA r.m.s. for sinusoidal, 0,7 mA peak non-sinusoidal or mixed frequencies or 2 mA d.c. when measured with measuring circuit A.1 or A.2 if less than 100 Hz		N/A
	for WET LOCATIONS measuring circuit A.4 used		N/A
	70 mA r.m.s. when measured with circuit A.3 for higher frequencies		N/A
	or		—
	c) Levels of capacitive charge or energy less:		—
	1) 45 µC for voltages up to 15 kV peak or d.c. or line A of Figure 3		N/A
	2) 350 mJ stored energy for voltages above 15 kV peak or d.c.		N/A
6.3.2	Levels in SINGLE FAULT CONDITION		—
	a) Voltage limits less than 55 V r.m.s. and 78 V peak or 140 V d.c.		N/A
	for WET LOCATIONS voltage limits less than 33 V r.m.s. and 46,7 V peak or 70 V d.c.		N/A
	Voltages are not HAZARDOUS LIVE the levels of:		—
	b) Current less than 3,5 mA r.m.s. for sinusoidal, 5 mA peak non-sinusoidal or mixed frequencies or 15 mA d.c. when measured with measuring circuit A.1 or A.2 if less than 100 Hz		N/A
	for WET LOCATIONS measuring circuit A.4 used		N/A
	500 mA r.m.s. when measured with circuit A.3 for higher frequencies		N/A
	or		—
	c) Levels of capacitive charge or energy less line B of Figure 3		N/A
6.4	Primary means of protection	External Certified power supply provided	P
6.4.1	ACCESSIBLE parts prevented from being HAZARDOUS LIVE by one or more of following means:		—
	a) ENCLOSURES or PROTECTIVE BARRIERS (see 6.4.2)		N/A
	b) BASIC INSULATION (see 6.4.3)	External Certified power supply provided	P
	c) Impedance (see 6.4.4)		N/A

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6.4.2	ENCLOSURES or PROTECTIVE BARRIERS	(see Form A.15 and A.16)	—
	– meet rigidity requirements of 8.1		P
	– meet requirements for BASIC INSULATION, if protection is provided by insulation	External Certified power supply provided	P
	– meet requirements of 6.7 for CREEPAGE and – CLEARANCES between ACCESSIBLE parts and – HAZARDOUS live parts, if protection is provided by – limited access		P
6.4.3	BASIC INSULATION	(see Form A.15 and A.16)	—
	– meet CLEARANCE, CREEPAGE DISTANCE and solid – insulation requirements of 6.7	External Certified power supply provided	P
6.4.4	Impedance		—
	Impedance used as primary means of protection meets all of following requirements:		—
	a) limits current or voltage to level of 6.3.2		N/A
	b) RATED for maximum WORKING VOLTAGE and the amount of power it will dissipate		N/A
	c) CLEARANCE, CREEPAGE DISTANCE between terminations of the impedance meet requirements of BASIC INSULATION of 6.7		N/A
6.5	Additional means of protection in case of SINGLE FAULT CONDITION		P
6.5.1	ACCESSIBLE parts are prevented from becoming HAZARDOUS live by the primary means of protection and supplemented by one of:	External Certified power supply provided	—
	a) PROTECTIVE BONDING (see 6.5.2)		P
	b) SUPPLEMENTARY INSULATION (see 6.5.3)		P
	c) automatic disconnection of the supply (see 6.5.5)		N/A
	d) current- or voltage-limiting device (see 6.5.6)		N/A
	Alternatively one of the single means of protection is used:		—
	e) REINFORCED INSULATION (see 6.5.3)	External Certified power supply provided	N/A
	f) PROTECTIVE IMPEDANCE (see 6.5.4)		N/A
6.5.2	PROTECTIVE BONDING	Eternal External Certified power supply provided	N/A
6.5.2.1	ACCESSIBLE conductive parts, may become HAZARDOUS LIVE in SINGLE FAULT CONDITION:		—
	Bonded to the PROTECTIVE CONDUCTOR TERMINAL; or	External Certified power supply provided	N/A

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	Separated by conductive screen or barrier bonded to PROTECTIVE CONDUCTOR TERMINAL		N/A
6.5.2.2	Integrity of PROTECTIVE BONDING		—
	a) PROTECTIVE BONDING consists of directly connected structural parts or discrete conductors or both; and withstands thermal and dynamic stresses	External Certified power supply provided	N/A
	b) Soldered connections:		—
	Independently secured against loosening		N/A
	Not used for other purposes		N/A
	c) Screw connections are secured		N/A
	d) PROTECTIVE BONDING not interrupted; or		N/A
	exempted as removable part carries MAINS SUPPLY input connection		N/A
	e) Any movable PROTECTIVE BONDING connection specifically designed, and meets 6.5.2.4		N/A
	f) No external metal braid of cables used (not regarded as PROTECTIVE BONDING)		N/A
	g) IF MAINS SUPPLY passes through:		—
	Means provided for passing protective conductor;		N/A
	Impedance meets 6.5.2.4		N/A
	h) Protective conductors bare or insulated, if insulated, green/yellow		N/A
	Exceptions:		—
	1) earthing braids;		N/A
	2) internal protective conductors etc.;		N/A
	Green/yellow not used for other purposes		N/A
	TERMINAL suitable for connection of a PROTECTIVE CONDUCTOR, and meets 6.5.2.3		N/A
6.5.2.3	PROTECTIVE CONDUCTOR TERMINAL		—
	a) Contact surfaces are metal		N/A
	b) Appliance inlet used	Part of External Certified power supply provided	N/A
	c) For rewirable cords and PERMANENTLY CONNECTED EQUIPMENT, PROTECTIVE CONDUCTOR TERMINAL is close to MAINS supply TERMINALS	Not permanently connected	N/A
	d) If no MAINS supply is required, any PROTECTIVE CONDUCTOR TERMINAL:		—
	Is near terminals of circuit for which protective earthing is necessary		N/A

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	External if other terminals external		N/A
	e) Equivalent current-carrying capacity to MAINS supply TERMINALS	External Certified power supply provided	N/A
	f) If plug-in, makes first and breaks last		N/A
	g) If also used for other bonding purposes, PROTECTIVE CONDUCTOR:		—
	Applied first;		N/A
	Secured independently;		N/A
	Unlikely to be removed by servicing		N/A
	h) PROTECTIVE CONDUCTOR of measuring circuit:	No measuring circuits	—
	1) Current RATING equivalent to measuring circuit TERMINAL;		N/A
	2) PROTECTIVE BONDING: not interrupted by any switch or interrupting device		N/A
	i) FUNCTIONAL EARTH TERMINALS allow independent connection	None provided	N/A
	j) If a binding screw used for PROTECTIVE CONDUCTOR TERMINAL:	None provided	—
	Suitable size for bond wire		N/A
	Not smaller than M 4		N/A
	At least 3 turns of screw engaged		N/A
	Passes tightening torque test		N/A
	k) Contact pressure not capable being reduced by deformation of materials		N/A
6.5.2.4	Impedance of PROTECTIVE BONDING of plug-connected equipment		—
	Impedance between PROTECTIVE CONDUCTOR TERMINAL and each ACCESSIBLE part where PROTECTIVE BONDING is specified, is:		—
	– less than 0,1 Ohm; or		N/A
	– less than 0,2 Ohm if equipment is provided with non-detachable cord		N/A
6.5.2.5	Bonding impedance of PERMANENTLY CONNECTED EQUIPMENT		—
6.5.2.6	Transformer PROTECTIVE BONDING screen		—
	Transformer provided with screen for PROTECTIVE BONDING:		—
	screen bonding consists of directly connected structural parts or discrete conductors or both; and withstands thermal and dynamic stresses (see 6.5.2.2 a)	None provided	N/A

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	screen bonding with soldered connection (see 6.5.2.2 b) is:		N/A
	– Independently secured against loosening		N/A
	– Not used for other purposes		N/A
6.5.3	SUPPLEMENTARY and REINFORCED INSULATION	External Certified power supply provided	N/A
	Meet CLEARANCE, CREEPAGE DISTANCE and solid insulation requirements of 6.7		N/A
6.5.4	PROTECTIVE IMPEDANCE		N/A
	Limits current or voltage to level of 6.3.1 in NORMAL and to level of 6.3.2 in SINGLE FAULT CONDITION		N/A
	CLEARANCE, CREEPAGE DISTANCE between terminations of the impedance meet requirements of DOUBLE or REINFORCED INSULATION of 6.7		N/A
	The PROTECTIVE IMPEDANCE consists of one or more of the following:		—
	a) appropriate single component suitable for safety and reliability for protection, it is:		—
	1) RATED twice the maximum WORKING VOLTAGE		N/A
	2) resistor RATED for twice the power dissipation for maximum WORKING VOLTAGE		N/A
	b) combination of components		N/A
	Single electronic device not used as PROTECTIVE IMPEDANCE		N/A
6.5.5	Automatic disconnection of the supply	None provided	N/A
	a) RATED to disconnect the load within time specified in Figure 2		N/A
	b) RATED for the maximum load conditions of the equipment		N/A
6.5.6	Current- or voltage-limiting devices	None provided	N/A
	Device complies with all of:		—
	a) RATED to limit the current or voltage to the level of 6.3.2		N/A
	b) RATED for the maximum WORKING VOLTAGE; and		N/A
	RATED for the maximum operational current if applicable		N/A
	c) CLEARANCE, CREEPAGE DISTANCE between terminations of the impedance meet requirements of SUPPLEMENTARY INSULATION of 6.7		N/A
6.6	Connections to external circuits		P

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6.6.1	Connections do not cause ACCESSIBLE parts of the following to become HAZARDOUS LIVE in NORMAL CONDITION or SINGLE FAULT CONDITION:		—
	– the external circuits	Grounded	P
	– the equipment	Grounded	P
	Protection achieved by separation of circuits; or	External Certified power supply provided	N/A
	short circuit of separation does not cause a HAZARD		N/A
	Instructions or markings for each terminal include:		—
	a) RATED conditions for TERMINAL		N/A
	b) Required RATING of external circuit insulation		N/A
6.6.2	TERMINALS for external circuits		P
	TERMINALS which receive a charge from an internal capacitor are not HAZARDOUS LIVE after 10 s of interrupting supply connection		N/A
6.6.3	Circuits with terminals which are HAZARDOUS LIVE	No hazardous voltage	N/A
	These circuits are:		—
	Not connected to ACCESSIBLE conductive parts; or		P
	Connected to ACCESSIBLE conductive parts, but are not MAINS CIRCUITS and have one TERMINAL contact at earth potential		N/A
	No ACCESSIBLE conductive parts are HAZARDOUS LIVE		P
6.6.4	ACCESSIBLE terminals for stranded conductors	Certified connectors provided	N/A
	No RISK of accidental contact because:		—
	– Located or shielded		N/A
	– Self-evident or marked whether or not connected to ACCESSIBLE conductive parts		N/A
	ACCESSIBLE TERMINALS will not work loose	Certified connections provided	N/A
6.7	Insulation requirements		P
6.7.1	The nature of insulation	Basic	—
6.7.1.1	Insulation between ACCESSIBLE parts or between separate circuits consist of CLEARANCES, CREEPAGE DISTANCES and solid insulation if provided as protection against a HAZARD		N/A
6.7.1.2	CLEARANCES		—
	Required CLEARANCES reflecting factors of 6.7.1.1	External Certified power supply provided	N/A
	Equipment rated for operating altitude greater than 2000 m correction factor of Table 3 of 61010-1 applied		N/A

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6.7.1.3	CREEPAGE DISTANCES		—
	Required CREEPAGE DISTANCES reflecting factors of 6.7.1.1 a) to d)	External Certified power supply provided	N/A
	CTI material group reflected by requirements	None required	N/A
	CTI test performed		N/A
6.7.1.4	Solid insulation	None provided	—
	Required solid insulation reflecting factors of 6.7.1.1 a) to d)		N/A
6.7.1.5	Requirements for insulation according to type of circuit		—
	a) 6.7.2 MAINS circuits of OVERVOLTAGE CATEGORY II up to nominal supply voltage of 300 V		P
	b) 6.7.3 secondary circuits separated from circuits defined in a) by transformer	External Certified power supply provided	P
	c) K.1 MAINS circuits of OVERVOLTAGE CATEGORY III and IV or OVERVOLTAGE CATEGORY II over 300 V		N/A
	d) K.2 secondary circuits separated from circuits defined in c) by transformer		N/A
	e) K.3 circuits having one or more of:	No such circuits	—
	1) maximum TRANSIENT OVERVOLTAGE is limited to known level below the level of MAINS CIRCUIT		N/A
	2) maximum TRANSIENT OVERVOLTAGE above the level of MAINS CIRCUIT		N/A
	3) WORKING VOLTAGE is the sum of more than one circuit or a mixed voltage		N/A
	4) WORKING VOLTAGE includes recurring peak voltage, may include non-sinusoidal or non-periodic waveform		N/A
	5) WORKING VOLTAGE with a frequency above 30 kHz		N/A
6.7.2	Insulation for MAINS CIRCUITS of OVERVOLTAGE CATEGORY II with a nominal supply voltage up to 300 V	External Certified power supply provided	P
6.7.2.1	CLEARANCES and CREEPAGE DISTANCES		—
	Values for MAINS CIRCUITS of Table 4 are met	External Certified power supply provided	N/A
	Coatings to achieve reduction to POLLUTION DEGREE 1 comply with requirements of Annex H		N/A
6.7.2.2	Solid insulation	None provided	—
6.7.2.2.1	Withstands electrical and mechanical stresses in normal use and all RATED environmental conditions of 1.4		N/A

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	Equipment passed voltage tests of 6.8.3 with values of Table 5	(see Form A.14)	P
	Complies as applicable:		—
	a) ENCLOSURE or PROTECTIVE BARRIER of Clause 8		N/A
	b) moulded and potted parts requirements of 6.7.2.2.2		N/A
	c) inner layers of printed wiring boards requirements of 6.7.2.2.3		N/A
	d) thin-film insulation requirements of 6.7.2.2.4		N/A
6.7.2.2.2	Moulded and potted parts	None provided	—
	Conductors between same two layers are separated by at least 0,4 mm after moulding is completed		N/A
6.7.2.2.3	Inner insulating layers of printed wiring boards		—
	Separated by at least 0,4 mm between same two layers		P
	REINFORCED INSULATION have adequate electric strength; one of following methods used:		—
	a) thickness of insulation is at least 0,4 mm		P
	b) insulation is assembled of minimum two separate layers, each RATED for test voltage of Table 5 for BASIC INSULATION		P
	c) insulation is assembled of minimum two separate layers, where the combination is rated for test voltage of Table 5 for REINFORCED INSULATION		P
6.7.2.2.4	Thin-film insulation	None provided	—
	Conductors between same two layers are separated by applicable CLEARANCES and CREEPAGE DISTANCE of 6.7.2.1		N/A
	REINFORCED INSULATION have adequate electric strength; one of following methods used:		—
	a) thickness through the insulation at least 0,4 mm		N/A
	b) insulation is assembled of min two separate layers, each RATED for test voltage of Table 5 for BASIC INSULATION		N/A
	c) insulation is assembled of min three separate layers, where the combination of two layers passed voltage tests of 6.8.3 with values of Table 5 for REINFORCED INSULATION		N/A
6.7.3	Insulation for secondary circuits derived from MAINS CIRCUITS of OVERVOLTAGE CATEGORY II up to 300 V	Basic insulation and protective earthing used	N/A
6.7.3.1	Secondary circuits where separation from MAINS CIRCUITS is achieved by a transformer providing:		—

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	– REINFORCED INSULATION	External Certified power supply provided	N/A
	– DOUBLE INSULATION		N/A
	– screen connected to the PROTECTIVE CONDUCTOR TERMINAL		N/A
6.7.3.2	CLEARANCES		—
	a) meet the values of Table 6 for BASIC INSULATION and SUPPLEMENTARY INSULATION; or	External Certified power supply provided	N/A
	twice the values of Table 6 for REINFORCED INSULATION		N/A
	or		—
	b) pass the voltage tests of 6.8 with values of Table 6;	(see Form A.18)	—
	with following adjustments:		—
	1) values for reinforced insulation are 1,6 times the values for basic insulation		N/A
	2) if operating altitude is greater than 2000 m values of CLEARANCES multiplied with factor of Table 3		N/A
	3) minimum CLEARANCE is 0,2 mm for POLLUTION DEGREE 2 and 0,8 mm for POLLUTION DEGREE 3		N/A
6.7.3.3	CREEPAGE DISTANCES		—
	Based on WORKING VOLTAGE meets the values of Table 7 for BASIC and SUPPLEMENTARY INSULATION		N/A
	Values for REINFORCED INSULATION are twice the values of BASIC INSULATION		N/A
	Coatings to achieve reduction to POLLUTION DEGREE 1 comply with requirements of Annex H		N/A
6.7.3.4	Solid insulation	Enclosure	—
6.7.3.4.1	Withstands electrical and mechanical stresses in normal use and all RATED environmental conditions of 1.4		—
	a) Equipment passed voltage test of 6.8.3.1 for 5 s with VALUES of Table 6 for BASIC and SUPPLEMENTARY INSULATION	(see Form A.18)	P
	values for REINFORCED INSULATION are 1,6 times the values of BASIC INSULATION		NP
	b) if WORKING VOLTAGE exceeds 300 V, equipment passed voltage test of 6.8.3.1 for 1 min with a test voltage of 1,5 times working voltage for BASIC or SUPPLEMENTARY INSULATION		N/A
	value for REINFORCED INSULATION are twice the WORKING VOLTAGE		N/A
	Complies as applicable:		—

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	1) ENCLOSURE or PROTECTIVE BARRIER of Clause 8		N/A
	2) moulded and potted parts requirements of 6.7.3.4.2		N/A
	3) inner layers of printed wiring boards requirements of 6.7.3.4.3		N/A
	4) thin-film insulation requirements of 6.7.3.4.4		N/A
6.7.3.4.2	Moulded and potted parts	None provided	—
	Conductors between same two layers are separated by applicable distances of Table 8		N/A
6.7.3.4.3	Inner insulation layers of printed wiring boards		—
	Separated by at least by applicable distances of Table 8 between same two layers		N/A
	REINFORCED INSULATION have adequate electric strength; one of following methods used:		—
	a) thickness at least applicable distance of Table 8		N/A
	b) insulation is assembled of minimum two separate layers, each RATED for test voltage of Table 6 for BASIC INSULATION		N/A
	c) insulation is assembled of min two separate layers, where the combination is RATED for 1,6 times the test voltage of Table 6		N/A
6.7.3.4.4	Thin-film insulation	None provided	—
	Conductors between same two layers are separated by applicable CLEARANCES and CREEPAGE DISTANCE of 6.7.3.2 and 6.7.3.3		N/A
	REINFORCED INSULATION have adequate electric strength; one of following methods used:		—
	a) thickness at least applicable distance of Table 8		N/A
	b) insulation is assembled of min. two separate layers, each RATED for test voltage of Table 6 for BASIC INSULATION		N/A
	c) insulation is assembled of min. three separate layers, where the combination of two layers passed voltage tests with 1,6 time values of Table 6:	(see Form A.18)	—
	a.c. test of 6.8.3.1; or		N/A
	d.c. test of 6.8.3.2 for circuits stressed only by d.c. voltages		N/A
6.8	Procedure for dielectric strength tests	(see Form A.14 and A.18)	P
6.9	Constructional requirements for protection against electric shock	Polymeric enclosure tested for reinforced insulation	P
6.9.1	If a failure could cause a HAZARD:	None	—

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	a) security of wiring connections	Wiring connections properly secured	P
	b) screws securing removable covers	Screws don't reduce creepage and clearance in unit	N/A
	c) accidental loosening	All wiring are unlikely to loosen accidentally	P
	d) CLEARANCES and CREEPAGE DISTANCES not reduced below the values of basic insulation by loosening of parts or wires		P
6.9.2	Insulating materials		P
	Material not to be used for safety relevant insulation:		—
	a) easily damaged materials not used	None used	P
	b) non-impregnated hygroscopic materials not used	None used	P
6.9.3	Colour coding		P
	Green-and-yellow insulation shall not be used except:		—
	a) protective earth conductors;		P
	b) PROTECTIVE BONDING conductors;		P
	c) potential equalization conductors;		N/A
	d) functional earth conductors		N/A
6.10	Connection to MAINS supply source and connections between parts of equipment		P
6.10.1	MAINS supply cords	Supplied with certified external power supply	—
	RATED for maximum equipment current (see 5.1.3 c)		P
	Cable complies with IEC 60227 or IEC 60245		N/A
	Heat-resistant if likely to contact hot parts	Not likely	N/A
	Temperature RATING (cord and inlet)..... :		—
	Green/yellow used only for connection to PROTECTIVE CONDUCTOR TERMINALS	Green/yellow used for PE only	P
	Detachable cords with IEC 60320 MAINS connectors:		—
	Conform to IEC 60799; or	Certified power cord	P
	Have the current RATING of the MAINS connector		N/A
6.10.2	Fitting of non-detachable MAINS supply cords	None provided	—
6.10.2.1	Cord entry		—
	a) inlet or bushing with a smoothly rounded opening; or		N/A N/A
	b) insulated cord guard protruding >5 D (diameter)		
6.10.2.2	Cord anchorage	Not provided	—
	Protective earth conductor is the last to take the strain		N/A

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	a) cord is not clamped by direct pressure from a screw		N/A
	b) knots are not used		N/A
	c) cannot push the cord into the equipment to cause a HAZARD		N/A
	d) no failure of cord insulation in anchorage with metal parts		N/A
	e) not to be loosened without a tool		N/A
	f) cord replacement does not cause a HAZARD and method of strain relief is clear		N/A
	Push-pull and or torque test		N/A
6.10.3	Plugs and connectors	Supplied with certified external power supply	N/A
	MAINS supply plugs, connectors etc., conform with relevant specifications		N/A
	If equipment supplied at voltages below 6.3.2.a) or from a sole source:		—
	Plugs of supply cords do not fit MAINS sockets above rated SUPPLY voltage		N/A
	MAINS type plugs used only for connection to MAINS supply		N/A
	Plug pins which receive a charge from an internal capacitor		N/A
	Accessory MAINS socket outlets:	None provided	—
	a) marking if accepts a standard MAINS supply plug (see 5.1.3e)		N/A
	b) input has a protective earth conductor if outlet has EARTH TERMINAL CONTACT		N/A
6.11	Disconnection from supply source		P
6.11.1	Disconnects all current-carrying conductors	Power cord is disconnect device supply with certified power supply	P
6.11.2	Exceptions	None	N/A
6.11.3	Requirements according to type of equipment		—

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6.11.3.1	PERMANENTLY CONNECTED EQUIPMENT and multi-phase equipment	Not permanently connected equipment	N/A
	Employs switch or circuit-breaker		N/A
	If switch or circuit-breaker is not part of the equipment, documentation requires:		—
	a) switch or circuit-breaker to be included in building installation		N/A
	b) suitable location easily reached		N/A
	c) marking as disconnecting for the equipment		N/A
6.11.3.2	Single-phase cord-connected equipment		P
	Equipment is provided with one of the following:		—
	a) switch or circuit-breaker		N/A
	b) appliance coupler (disconnectable without tool)	Part of certified power supply	P
	c) separable plug (without locking device)		N/A
6.11.4	Disconnecting devices	Coupler is disconnect device	P
6.11.4.1	Disconnecting device part of equipment		N/A
	Electrically close to the SUPPLY		N/A
	Power-consuming components not electrically located between the supply source and the disconnecting device		N/A
	Except electromagnetic interference suppression circuits permitted to be located on the supply side of the disconnecting device		N/A
6.11.4.2	Switches and circuit-breakers	Coupler is disconnect device	N/A
	When used as disconnection device:		—
	Meets IEC 60947-1 and IEC 60947-3		N/A
	Marked to indicate function ..... :		—
	Not incorporated in MAINS cord		N/A
	Does not interrupt PROTECTIVE EARTH CONDUCTOR		N/A
6.11.4.3	Appliance couplers and plugs	Part of certified external power supply	N/A
	Where an appliance coupler or separable plug is used as the disconnecting device (see 6.11.3.2):		—
	Readily identifiable and easily reached by the operator		P
	Single-phase portable equipment cord length not more than 3 m		P
	PROTECTIVE EARTH CONDUCTOR connected first and disconnected last		P

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7	PROTECTION AGAINST MECHANICAL HAZARDS		P
7.1	Equipment does not cause a mechanical HAZARD in NORMAL nor in SINGLE FAULT CONDITION		P
	Conformity is checked by 7.2 to 7.7		P
7.2	Sharp edges	No sharp edges or corners	P
	Easily touched parts are smooth and rounded		P
	Do not cause injury during NORMAL USE and		P
	Do not cause injury during SINGLE FAULT CONDITION		P
7.3	Moving parts	Printer cover closed during normal use, fan guarded	P
7.3.1	HAZARDS from moving parts limited to a tolerable level with the conditions specified in 7.3.2 and 7.3.5		NP
	RISK assessment in accordance with 7.3.3 carried out		N/A
7.3.2	Exceptions	None	N/A
	Access to HAZARDOUS moving parts permitted under following circumstances:		—
	a) obviously intended to operate on parts or materials external of the equipment		N/A
	by inadvertent touching of moving parts minimized equipment design (e .g. guards or handles)		N/A
	b) If OPERATOR access is unavoidable outside NORMAL USE following precautions have been taken:		—
	1) access requires TOOL		N/A
	2) statement about training in the instructions		N/A
	3) warning markings on covers prohibiting access by untrained OPERATORS		N/A
	or symbol 14 with full details in documentation		N/A
7.3.3	RISK assessment for mechanical HAZARDS to body parts	Not required	N/A
	RISK is reduced to a tolerable level by protective measures as specified in table 12		P
	Minimum protective measures:		—
	A. Low level measures		N/A
	B. Moderate measures	Printer cover closed during normal use, fan guarded	N/A
	C. Stringent measures		N/A
7.3.4	Limitation of force and pressure		N/A
	Following levels are met in NORMAL and SINGLE FAULT CONDITION:		—

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	Continuous contact pressure below 50 N / cm² with force below 150 N	No accessible hazardous moving parts	N/A
	Temporary force below 250 N for an area at least of 3 cm² for a maximum duration of 0,75 s		N/A
7.3.5	Gap limitations between moving parts		N/A
7.3.5.1	Access normally allowed		—
	If levels of 7.3.4 exceeded and body part may be inserted minimum gap as specified in table 13 assured in NORMAL and in SINGLE FAULT CONDITION		N/A
7.3.5.2	Access normally prevented		—
	Maximum gap as specified in table 14 assured in NORMAL and in SINGLE FAULT CONDITION		N/A
7.4	Stability		P
	Equipment not secured to building structure is physical stable		P
	Stability maintained after opening of drawers etc. by automatic means, or		P
	warning marking requires the application of means		P
	Compliance checked by following tests as applicable:		P
	a) 10° tilt test for other than handheld equipment		P
	b) multi-directional force test for equipment exceeds height of 1 m and mass of 25 kg		N/A
	c) downward force test for floor-standing equipment	Not floor standing equipment	N/A
	d) overload test with 4 times maximum load for castor or support that supports greatest load	No castors or support	N/A
	e) castor or support that supports greatest load removed from equipment		N/A
7.5	Provisions for lifting and carrying	Previously evaluated in Intertek report 3161285BOX-004	P
7.5.1	Equipment more than 18 kg :	Less than 18Kg	—
	Has means for lifting or carrying; or		N/A
	Directions in documentation		N/A
7.5.2	Handles and grips		—
	Handles or grips withstand four times weight		N/A
7.5.3	Lifting devices and supporting parts		—
	RATED for maximum load; or		N/A
	tested with four times maximum static load		N/A
7.6	Wall mounting	Not a wall mounted equipment	N/A
	Mounting brackets withstand four times weight		N/A
7.7	Expelled parts	Not likely to expelled parts	N/A

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	Equipment contains or limits the energy		N/A
	Protection not removable without the aid of a tool	Requires a tool	N/A

8	RESISTANCE TO MECHANICAL STRESSES		P
8.1	Equipment does not cause a HAZARD when subjected to mechanical stresses in NORMAL USE		P
	Normal protection level is 5 J		P
	Levels below 5 J but not less than 1 J are acceptable if all of following criteria are met:	Not required	—
	a) lower level justified by RISK assessment of manufacturer		N/A
	b) equipment installed in its intended application is not easily touched		N/A
	c) only occasional access during NORMAL USE		N/A
	d) IK code in accordance to IEC 62262 marked or symbol 14 used with full information in the documentation		N/A
	for non-metallic ENCLOSURES rated below 2 °C ambient temperature value chosen for minimum RATED temperature		N/A
	impact energies between IK values, the IK code marked for nearest lower value		N/A
	Conformity is checked by performing following tests:		—
	1) static test of 8.2.1		P
	2) impact test of 8.2.2 with 5 J except for HAND-HELD EQUIPMENT		P
	if impact energy not selected to 5 J alternate method of IEC 62262 used		N/A
	3) drop test of 8.3.1 or 8.3.2 except for FIXED EQUIPMENT and equipment with mass over 100 kg		P
	Equipment RATED with an impact rating of IK 08 that obviously meets the criteria		N/A
	After the tests inspection with following results:		—
	– HAZARDOUS LIVE parts above the limits of 6.3.2 not ACCESSIBLE		P
	– insulation pass the voltage tests of 6.8	(see Form A.30)	P
	i) no leaks of corrosive and harmful substances		N/A
	ii) ENCLOSURE shows no cracks resulting in a HAZARD		P
	iii) CLEARANCES not less than their permitted values		P

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	iv) insulation of internal wiring remains undamaged		P
	v) PROTECTIVE BARRIERS not damaged or loosened		P
	vi) No moving parts exposed, except permitted by 7.3	No moving parts exposed	P
	vii) no damage which could cause spread of fire		P
8.2	ENCLOSURE rigidity test	Previously evaluated in Intertek report 3161285BOX-004	P
8.2.1	Static test		P
	– 30 N with 12 mm rod to each part of ENCLOSURE		P
	– in case of doubt test conducted at maximum RATED ambient temperature		N/A
8.2.2	Impact test		P
	Impact applied to any part of ENCLOSURE causing a HAZARD if damaged		P
	Impact energy level and corresponding IK code..... :		—
	Non-metallic ENCLOSURES cooled to minimum RATED ambient temperature if below 2 °C		N/A
8.3	Drop test	(see Form A.21B)	P
8.3.1	Other than HAND-HELD and DIRECT-PLUG-IN EQUIPMENT		P
	Tests conducted with a drop height or angle of ..... :	100mm	—
8.3.2	HAND-HELD and DIRECT-PLUG-IN EQUIPMENT		—
	Non-metallic ENCLOSURES cooled to minimum RATED ambient temperature if below 2 °C		N/A
	Drop test conducted with an height of 1 m		P

9	PROTECTION AGAINST THE SPREAD OF FIRE		P
9.1	No spread of fire in NORMAL and SINGLE FAULT CONDITION	Enclosure rated V-0	P
	MAINS supplied equipment meets requirements of 9.6 additionally		P
	Conformity is checked by minimum one or a combination of the following (see Figure 11):	No excessive heating during clause 10.4	—
	a) SINGLE FAULT test of 4.4; or	(see Form A.1)	P
	b) Application of 9.2 (eliminating or reducing the sources of ignition); or		P
	c) Application of 9.3 (containment of fire within the equipment)		P
9.2	Eliminating or reducing the sources of ignition within the equipment		P

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	a) 1) Limited-energy circuit (see 9.4); or	Certified external power supply provided	N/A
	b) 2) BASIC INSULATION provided for parts of different potential; or		P
	Bridging the insulation does not cause ignition		N/A
	c) Surface temperature of liquids and parts (see 9.5)	No flammable liquid used	N/A
	d) No ignition in circuits designed to produce heat		N/A
9.3	Containment of the fire within the equipment, should it occur		P
9.3.1	Spread of fire outside equipment reduced to a tolerable level if:		—
	a) Energizing of the equipment is controlled by an OPERATOR held switch		N/A
	b) ENCLOSURE is conform with constructional requirements of 9.3.2; and	Rated V-0	P
	Requirements of 9.5 are met		N/A
9.3.2	Constructional requirements		—
	a) Connectors and insulating material have flammability classification V-2 or better	(see TABLE 1 or Form A.23)	P
	b) Insulated wires and cables are flame retardant (VW-1 or equivalent)	(see TABLE 1 or Form A.23)	P
	c) ENCLOSURE meets following requirements:	(see Form A.22)	—
	1) Bottom and sides in arc of 5 ° (see Figure 13) to non-limited circuits (9.4) meets:		—
	i) no openings; or	No holes in bottom	P
	ii) perforated as specified in table 16; or		P
	iii) metal screen with a mesh; or	None	N/A
	iv) baffles as specified in Figure 12		N/A
	2) Material of ENCLOSURE and any baffle or flame barrier is made of:		—
	Metal (except magnesium); or	Magnesium not used	P
	Non-metallic materials have flammability classification V-1 or better		N/A
	3) ENCLOSURE and any baffle or flame barrier have adequate rigidity		P
9.4	Limited-energy circuit	No limited energy circuits	N/A
	a) Potential not more than 30 r.m.s. and 42,4 V peak, or 60 V dc		N/A
	b) Current limited by one of following means:		—

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	1) Inherently or by impedance (see table 17); or		N/A
	2) Overcurrent protective device (see table 18); or		N/A
	3) A regulating network limits also in SINGLE FAULT CONDITION (see table 17)		N/A
	c) Is separated by at least BASIC INSULATION		N/A
	Fuse or a nonadjustable electromechanical device is used		N/A
9.5	Requirements for equipment containing or using flammable liquids	No flammable liquids used	N/A
	Flammable liquids contained in or specified for use with equipment do not cause spread of fire		N/A
	RISK is reduced to a tolerable level:		—
	a) The temperature of surface or parts in contact with flammable liquids is 25 °C below fire point		N/A
	b) The quantity of liquid is limited		N/A
	c) Flames are contained within the equipment		N/A
	Detailed instructions for RISK-reduction provided		N/A
9.6	Overcurrent protection	Fuse provided	P
9.6.1	MAINS supplied equipment protected	Certified external power supply provided	N/A
	BASIC INSULATION between MAINS parts of opposite polarity provided		P
	Devices not in the protective conductor	Not in the protective conductor	P
	Fuses or single-pole circuit-breakers not fitted in neutral (multi-phase)	Fuse in DC line to unit	P
9.6.2	PERMANENTLY CONNECTED EQUIPMENT	Not permanently connected	N/A
	Overcurrent protection device:		—
	Fitted within the equipment; or		N/A
	Specified in manufacturer's instructions		N/A
9.6.3	Other equipment		—
	Protection within the equipment		N/A

10	EQUIPMENT TEMPERATURE LIMITS AND RESISTANCE TO HEAT		P
10.1	Surface temperature limits for protection against burns		P
	Easily touched surfaces within the limits in NORMAL and in SINGLE FAULT CONDITION:	(see Form A.26A)	—

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	– at an specified ambient temperature of 40 °C		P
	– for equipment rated above 40 °C ambient temperature limits not exceeded raised by the difference to 40 °C		N/A
	Heated surfaces necessary for functional reasons exceeding specified values:	None provided	—
	– Are recognizable as such by appearance or function; or		N/A
	– Are marked with symbol 13		P
	– Guards are not removable without tool		N/A
10.2	Temperatures of windings	External certified power supply provided	N/A
	Limits not exceeded in:		—
	NORMAL CONDITION		P
	SINGLE FAULT CONDITION		P
10.3	Other temperature measurements		N/A
	Following measurements conducted if applicable:		—
	a) Value of 60 °C of field-wiring terminal box not exceeded	No field wiring terminal box	N/A
	b) Surface of flammable liquids and parts in contact with this liquids	No flammable liquids	N/A
	c) Surface of non-metallic ENCLOSURES		P
	d) Parts made of insulating material supporting parts connected to MAINS supply		N/A
	e) Terminals carrying a current more than 0,5 A		N/A
10.4	Conduct of temperature tests		P
10.4.1	Tests conducted under reference test conditions and manufacturer's instructions	(see Form A.26A)	P
10.4.2	Temperature measurement of heating equipment	No Heating equipment	N/A
	Tests conducted in test corner		N/A
10.4.3	Equipment intended for installation in a cabinet or wall	Not intended for installation in a cabinet or wall	N/A
	Equipment built in as specified in installation instructions		N/A
10.5	Resistance to heat		N/A
10.5.1	Integrity of CLEARANCE and CREEPAGE DISTANCES		N/A
10.5.2	Non-metallic ENCLOSURES		N/A
	Within 10 min after treatment:		—
	Equipment subjected to suitable stresses of 8.2 and 8.3 complying with criteria of 8.1		N/A

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10.5.3	Insulating material		N/A
	a) Parts supporting parts connected to MAINS supply		N/A
	b) TERMINALS carrying a current more than 0,5 A		N/A
	Examination of material data; or		N/A
	in case of doubt:		N/A
	1) Ball pressure test; or		N/A
	2) Vicat softening test of ISO 306		N/A

11	PROTECTION AGAINST HAZARDS FROM FLUIDS		P
11.1	Protection to OPERATORS and surrounding area provided by EQUIPMENT		P
	All fluids specified by manufacturer considered		N/A
11.2	Cleaning	(see Form A.30)	P
11.3	Spillage	No Liquids employed	N/A
11.4	Overflow	(see Form A.30)	N/A
11.5	Battery electrolyte	Sealed Certified battery	N/A
	Battery electrolyte leakage presents no HAZARD		N/A
11.6	Specially protected equipment	No special protection	N/A
11.7	Fluid pressure and leakage	No pressurized components	N/A
11.7.1	Maximum pressure .....:		—
	Maximum pressure of any part does not exceed P_{RATED}		N/A
11.7.2	Leakage and rupture at high pressure		—
	Fluid-containing parts subjected to hydraulic test if....:		—
	a) product of pressure and volume > 200 kPal; and		N/A
	b) pressure > 50 kPa		N/A
	Parts of refrigerating systems meets pressure-related requirements of IEC 60335-24 or IEC 60335-2-89		N/A
11.7.3	Leakage from low-pressure parts		N/A
11.7.4	Overpressure safety device		N/A
	Does not operate in NORMAL USE		N/A
	a) Connected as close as possible to parts intended to be protected		N/A
	b) Easy access for inspection, maintenance and repair		N/A

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	c) Adjustment only with TOOL		N/A
	d) No discharge towards person		N/A
	e) No HAZARD from deposit of discharged material		N/A
	f) Adequate discharge capacity		N/A
	No shut-off valve between overpressure safety device and protected parts		N/A

12	PROTECTION AGAINST RADIATION, INCLUDING LASER SOURCES, AND AGAINST SONIC AND ULTRASONIC PRESSURE		N/A
12.1	Equipment provides protection		N/A
12.2	Equipment producing ionizing radiation	None produced	N/A
12.2.1	Ionizing radiation	No ionizing radiation	N/A
12.2.1.1	Equipment meets the following requirements:		—
	a) if intended to emit radiation meets requirements of 12.2.1.2; or		N/A
	tested, classified and marked in accordance to IEC 60405		N/A
	b) if only emits stray radiation meets requirements of 12.2.1.3		N/A
12.2.1.2	Equipment intended to emit radiation	None	—
	Effective dose rate of radiation measured ..... :		—
	If dose rate exceeds 5 µSv/h marked with the following:		—
	a) symbol 17 (ISO 361)		N/A
	b) abbreviations of the radionuclides ..... :		—
	c) with maximum dose at 1 m; or ..... :		—
	with dose rate value between 1 µSv/h and 5 µSv/h in m ..... :		—
12.2.1.3	Equipment not intended to emit radiation	(see Form A.34)	—
	Limit for unintended stray radiation of 1 µSv/h at any easily reached point kept ..... :		—
12.2.2	Accelerated electrons	No accelerated electrons	—
	Compartments opened only by the use of a TOOL		N/A
12.3	Ultraviolet (UV) radiation	None produced	N/A
	No unintentional HAZARDOUS escape of UV radiation:		—
	– checked by inspection; and		N/A
	– evaluation of RISK assessment documentation		N/A
12.4	Microwave radiation		N/A
	Power density does not exceed 10 W/m^2 ..... :		N/A

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12.5	Sonic and ultrasonic pressure		P
12.5.1	Sound level	No sound producing devices	—
	No HAZARDOUS sound emission		P
	Maximum sound pressure level measured and calculated for maximum sound power level as specified in ISO 3746 or ISO 9614-1	No sound pressure	N/A
	Instruction describes measures for protection		N/A
12.5.2	Ultrasonic pressure	No ultrasonic pressure	N/A
	Equipment not intended to emit ultrasound does not exceed limit of 110 dB between 20 kHz and 100 kHz		N/A
	Equipment intended to emit ultrasound:		N/A
	Outside useful beam does not exceed limit of 110 dB between 20 kHz and 100 kHz		N/A
	If inside useful beam above values exceeded:		—
	Marked with Symbol 14 of table 1		N/A
	and following information in the documentation:		—
	a) dimensions of useful beam		N/A
	b) area where ultrasonic pressure exceed 110 dB		N/A
	c) maximum sound pressure inside beam area		N/A
12.6	Laser sources	No lasers	N/A
	Equipment meets requirements of IEC 60825-1		N/A

13	PROTECTION AGAINST LIBERATED GASES AND SUBSTANCES, EXPLOSION AND IMPLOSION		N/A
13.1	Poisonous and injurious gases and substances	No poisonous and injurious gases	N/A
	No poisonous or injurious gases or substances liberated in NORMAL CONDITION		N/A
	Attached data/test reports demonstrate conformity		N/A
13.2	Explosion and implosion		N/A
13.2.1	Components		N/A
	Components liable to explode:		—
	Pressure release device provided; or		N/A
	Apparatus incorporates operator protection (see also 7.7)		N/A
	Pressure release device:		—
	Discharge without danger		N/A
	Cannot be obstructed		N/A
13.2.2	Batteries and battery charging		—

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	If explosion or fire HAZARD could occur:	Previously evaluated in Intertek report 3010899	—
	Protection incorporated in the equipment; or	Battery pack has built in protection	P
	Instructions specify batteries with built-in protection		N/A
	In case of wrong type of battery used:	Mechanical design prevents wrong type battery to be installed	—
	No HAZARD; or		P
	Warning by marking and within instructions	In manual	P
	Equipment with means to charge rechargeable batteries:		—
	Warning against the charging of non-rechargeable batteries; and	Non-user serviceable	N/A
	Type of rechargeable battery indicated; or	NiMH indicated in manual	N/A
	Symbol 14 used		N/A
	Battery compartment design	Mechanical design prevents wrong type battery to be installed	N/A
	Single component failure		N/A
	Polarity reversal test		N/A
13.2.3	Implosion of cathode ray tubes	No CRTs	N/A
	If maximum face dimensions > 160 mm..... :		—
	Intrinsically protected and correctly mounted; or		N/A
	ENCLOSURE provides protection:		N/A
	If non-intrinsically protected:		—
	Screen not removable without TOOL		N/A
	If glass screen, not in contact with surface of tube		N/A

14	COMPONENTS AND SUBASSEMBLIES		P
14.1	Where safety is involved, components and subassemblies meet relevant requirements	(see TABLE 1)	P
14.2	Motors	Printer Stepper motor and fan only	N/A
14.2.1	Motor temperatures		N/A
	Does not present a HAZARD when stopped or prevented from starting; or		N/A

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

	Protected by over-temperature or thermal protection device conform with 14.3		N/A
14.2.2	Series excitation motors	No series excitation motor	N/A
	Connected direct to device, if overspeeding causes a HAZARD		N/A
14.3	Overtemperature protection devices	Thermostat bypassed – No hazards	P
	Devices operating in a SINGLE FAULT CONDITION		N/A
	a) Reliable function is ensured		N/A
	b) RATED to interrupt maximum current and voltage		N/A
	c) Does not operate in NORMAL USE		N/A
	If self-resetting device used to prevent a HAZARD, protected part requires intervention before restarting		N/A
14.4	Fuse holders		P
	No access to HAZARDOUS LIVE parts		P
14.5	MAINS voltage selecting devices	None	N/A
	Accidental change not possible		N/A
14.6	MAINS transformers tested outside equipment		N/A
14.7	Printed circuit boards		P
	Data shows conformity with V-1 of IEC 60695-11-10 or better; or	V-0 rated boards	N/A
	Test shows conformity with V-1 of IEC 60695-11-10 or better		N/A
	Not applicable for printed wiring boards with limited-energy circuits (9.4)		N/A
14.8	Circuits or components used as TRANSIENT OVERVOLTAGE limiting devices	None	N/A
	Test conducted between each pair of MAINS SUPPLY TERMINALS		N/A
	No HAZARD resulting from rupture or overheating of the component:		—
	– no bridging of safety relevant insulation		N/A
	– no heat to other parts above the self-ignition points		N/A

15	PROTECTION BY INTERLOCKS		N/A
15.1	Interlocks are designed to remove a HAZARD before OPERATOR exposed	No interlocks provided	N/A
15.2	Prevention of reactivation		N/A
15.3	Reliability		N/A
	Single fault unlikely to occur; or		N/A

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

	Cannot cause a HAZARD		N/A

16	HAZARDS RESULTING FROM APPLICATION		N/A
16.1	REASONABLY FORESEEABLE MISUSE	Not required	N/A
	No HAZARDS arising from settings not intended and not described in the instructions		N/A
	Other cases of REASONABLY FORESEEABLE MISUSE addressed by RISK assessment		N/A
16.2	Ergonomic aspects		N/A
	Factors giving rise to a HAZARD the RISK assessment is reflecting those aspects:		—
	a) limitation of body dimensions		N/A
	b) displays and indicators		N/A
	c) accessibility and conventions of controls		N/A
	d) arrangement of TERMINALS		N/A

17	RISK ASSESSMENT		N/A
	RISK assessment conducted, if HAZARD might arise and not covered by Clauses 6 to 16	No hazards not covered by IEC 61010-1 standard	N/A
	TOLERABLE RISK achieved by iterative documented process covering the following:		—
	a) RISK analysis		N/A
	Identifies HAZARDS and estimates RISK		N/A
	b) RISK evaluation		N/A
	Plan to judge acceptability of resulting RISK level based on the estimated severity and likelihood of a RISK		N/A
	c) RISK reduction		N/A
	Initial RISK reduced by counter measures;		N/A
	Repeated RISK evaluation without new RISKS introduced		N/A
	RISKS remaining after RISK assessment addressed in instructions to RESPONSIBLE BODY:		—
	Information contained how to mitigate these RISKS		N/A
	Following principles in methods of RISK reduction applied by manufacturer in given order:		—
	1) RISKS eliminated or reduced as far as possible		N/A
	2) Protective measures taken for RISKS that cannot be eliminated		N/A

IEC 61010-1		
Requirement + Test	Result - Remark	Verdict

	3) User information about residual RISK due to any defect of the protective measures		N/A
	Indication of particular training is required	Password access dependent on level of training indicated in manual	N/A
	Specification of the need for personal protective equipment		N/A
	Conformity checked by evaluation of the RISK assessment documentation		N/A

ANNEX F	ROUTINE TESTS		P
	Manufacturer ´s declaration	Manufacturer will perform production line testing according to Annex F	P

ANNEX H	QUALIFICATION OF CONFORMAL COATINGS FOR PROTECTION AGAINST POLLUTION		N/A
H.1	General	No coatings	N/A
	Conformal coatings meet the requirements of Clause H.2 and H.3.		N/A
H.2	Technical properties		N/A
	Technical properties of conformal coatings are suitable for the intended application. In particular:		—
	a) Manufacturer indicate that it is a coating for PWBs;		N/A
	b) RATED operating temperature include the temperature range of the indicated application;		N/A
	c) CTI, insulation resistance and dielectric strength are suitable for the intended application;		N/A
	d) Coating have adequate UV resistance, if it is exposed to sunlight;		N/A
	e) Flammability RATING of the coating is at least the required flammability RATING of the applied PWB.		N/A
H.3	Qualification of coatings	(see Form A.42)	N/A
	Coating complies with the conformity requirements.		N/A

ANNEX K	INSULATION REQUIREMENTS NOT COVERED BY CLAUSE 6.7	(see Form A.15 and A.18)	N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

4.4	**TABLE: Testing in SINGLE FAULT CONDITION – Results**			**Form A.1**	P
Test subclause	Fault No.	Fault description	Td 4.4.3 (NOTE)	How was test terminated Comments	Meets 4.4.4
4.4.2.3	1	Opened PE	1m	Accessible current limits not exceeded - no hazard	P
4.4.2.10	2	Blocked Vent holes	1hr 1m	Temperatures stabilized - no hazard	P

NOTE Td = Test duration in hh:mm:ss
Record dielectric strength test on Form A.18 and temperature tests on Form A.26A and or A.26B.
Record in the comments column for each test whether carried out during or after SINGLE FAULT CONDITION.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-01 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

5.1.3c)	**TABLE: MAINS supply**		**Form A.2**	P
	Marked rating.....:	100-240	V	—
	Phase.....:	Single		—
	Frequency .....:	50/60	Hz	—
	Current .....:	1.8	A	—
	Power .....:	-	W	—
	Power .....:	-	VA	—

Test	Voltage	Frequency	Current	Power		Comments
No.	[V]	[Hz]	[A]	[W]	[VA]	
1	90	60	0.944	83.9	84.5	External Certified Power Supply
2	100	60	1.29	128.5	128.3	External Certified Power Supply
3	115	60	1.27	144.3	144.9	External Certified Power Supply
4	216	60	0.587	106.3	131.1	External Certified Power Supply
5	240	60	0.335	81.3	136.1	External Certified Power Supply
6	264	60	0.430	71.8	91.8	External Certified Power Supply
1	90	50	1.452	129.6	129.8	External Certified Power Supply
2	100	50	0.837	81.9	82.4	External Certified Power Supply
3	115	50	1.125	75.1	128	External Certified Power Supply
4	216	50	0.690	142.2	149.0	External Certified Power Supply
5	240	50	0.289	75.1	91.4	External Certified Power Supply
6	264	50	0.341	85.9	104.5	External Certified Power Supply

NOTE – Measurements are only required for marked ratings.

Supplementary information:

TESTED BY: ACF DATE: 2014-06-30 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

5.3	**TABLE: Durability of markings**	**Form A.3**	P

Marking method (see NOTE)	Agent
1) Adhesive labels	A Water
2) Silkscreen	B Isopropyl alcohol 70%
	C (specify agent)
	D (specify agent)
	E (specify agent)

NOTE – Where applicable include print method, label material, ink or paint type, fixing method, adhesive and surface to which marking is fixed.

Marking location	Marking method (see above)
Identification (5.1.2)	1
MAINS supply (5.1.3)	2
Fuses (5.1.4)	2
terminals and operating devices (5.1.5.2)	2
Switches and circuit breakers (5.1.6)	2
Double/reinforced equipment (5.1.7)	N/A
Field wiring Terminal boxes (5.1.8)	N/A
Warning marking (5.2)	1
Battery charging (13.2.2)	1

Method	Test agent	Remains legible	Label loose	Curled edges	Comments
		Verdict	Verdict	Verdict	
1	A, B	Yes	Yes	No	Passed

Supplementary information:
Data taken from report 101083788BOX-001f

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.2	**TABLE: List of ACCESSIBLE parts** **Form A.4**	P
6.1.2	Exceptions	—
6.2	Determination of ACCESSIBLE parts	—

Item	Description	Determination method (NOTE 5)	Exception under 6.1.2 (NOTE 4)
1	Entire enclosure	J	N/A

NOTE 1 – Test fingers and pins are to be applied without force unless a force is specified (see 6.2.2)
NOTE 2 – Special consideration should be given to inadequate insulation and high voltage parts (see 6.2)
NOTE 3 – Parts are considered to be ACCESSIBLE if they could be touched in the absence of any covering which is not considered to provide suitable insulation (see 6.4).
NOTE 4 – Capacitor test may be required (see Form A.5).
NOTE 5 – The determination methods are:
V = visual; R = rigid test finger; J = jointed test finger; P3 = pin 3 mm diameter; P4 = pin 4 mm diameter.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-01 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6	**TABLE: Values in NORMAL CONDITION**		**Form A.5**	P
6.1.2	Exceptions	11.2	Cleaning and decontamination	—
6.3.1	Values in NORMAL CONDITION (see NOTE 1)	11.3	Spillage	—
6.6.2	Terminals for external circuit	11.4	Overflow	—
6.10.3	Plugs and connections			—

Item (see Form A.4)	Voltage			Current				Capacitance		10 s / 5 s test (NOTE)			Comments
	V r.m.s.	V peak	V d.c.	Test circuit A1/A2/A3	mA r.m.s.	mA peak	mA d.c.	µC	mJ	V	µC	mJ	
Enclosure	0	N/A	N/A	A2	0	N/A	N/A	0	N/A	N/A	N/A	N/A	

NOTE – A 10 s test is specified in 6.1.2 a) b). A. 5 s test is specified in 6.10.3. The capacitance level versus voltage below the limits given from figure 3 of IEC 61010-1.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-01 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.3.2	**TABLE: Values in SINGLE FAULT CONDITION**											**Form A.6**	P
Item	Subclause and	Voltage			Transient (see NOTE)		Current				Capacitance	Comments	
(see Form A.4)	fault No. (see Form A.1)	V r.m.s.	V peak	V d.c.	V	s	Test circuit A1/A2/A3	mA r.m.s.	mA peak	mA d.c.	µF (see NOTE)		
Enclosure	Open PE Ground	0.433	N/A	N/A	N/A	N/A	A2	0.21	N/A	N/A	0.0137		
NOTE – Transient voltages must be below the limits given from Figure 2 and the capacitance below the limits from figure 3 of IEC 61010-1.													
Supplementary information:													

TESTED BY: ACF DATE: 2014-07-01 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.2.2	**TABLE: Cross-sectional area of bonding conductors**	**Form A.7**	N/A

Conductor location	CROSS-SECTIONAL AREA [mm²]	Verdict

Supplementary information:

6.5.2.3	**TABLE: Tightening torque test**	**Form A.8**	N/A

Conductor location	Size of screw	Tightening torque [Nm]	Verdict

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.2.4	**TABLE: Bonding impedance of plug connected equipment** **Form A.9**			N/A
ACCESSIBLE part under test	Test current [A]	Voltage attained after 1 min [V]	Calculated resistance (Maximum 0,1 or 0,2 Ω) [Ω] (NOTE 1)	Verdict

NOTE 1 – For none-detachable power cord the impedance between protective conductor plug pin of MAINS cord and each ACCESSIBLE part shall not exceed 0,2 Ohm.

Supplementary information:

6.5.2.5	**TABLE: Bonding impedance of permanently connected equipment** **Form A.10**			N/A
ACCESSIBLE part under test	Test current [A]	Voltage attained after 1 min (maximum 10 V) [V]		Verdict

Supplementary information:

6.5.2.6	**TABLE: Transformer PROTECIVE BONDING screen** **Form A.11**			N/A
ACCESSIBLE part under test	Test current (see NOTE) [A]	Voltage attained after 1 min (maximum 10 V) [V]	Calculated resistance (maximum 0,1 Ω) [Ω]	Verdict

NOTE – Test current must be twice the value of the overcurrent protection means of the winding. Test is specified in 6.5.2.6 a) or b).

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.4	**TABLE: protective impedance**	**Form A.12**	N/A

A single component

Component	Location	Measured		Calculated	Rated		Verdict	Comments
		Working voltage [V]	Current [A]	Power dissipation [W]	Working voltage [V]	Power dissipation [W]		

A combination of components

Component	Location	Comments

NOTE – A PROTECTIVE IMPEDANCE shall not be a single electronic device that employs electron conduction in a vacuum, gas or semiconductor.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

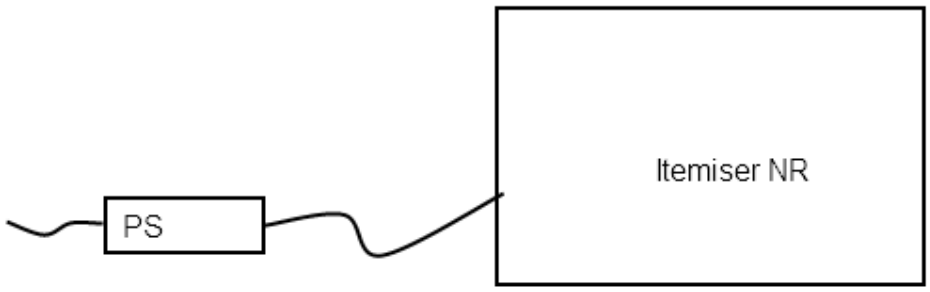
IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.6	**TABLE: Current- or voltage-limiting device**						**Form A.13**	N/A
Component	Location	Measured		Rated		Verdict	Comments	
		Working voltage [V]	Current [A]	Working voltage [V]	Current [A]			
Supplementary information:								

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.7	**TABLE: Insulation requirements- Block diagram of system**	**Form A.14**	P



Pollution degree.....: 2	Overvoltage category.....: II

Area	Location	Insulation type	WORKING VOLTAGE			Test voltage	Comments (NOTE 3)
		(NOTE 1)	RMS [V]	Peak [V]	Frequency [kHz]	(NOTE 2) [V]	
A	PS	BI	240	-	0.060	1752rms	Certified PS
B							
C							
D							
E							
F							

NOTE 1 – Type of insulation:
BI = BASIC INSULATION
DI = DOUBLE INSULATION
PI = PROTECTIVE IMPEDANCE
RI = Reinforced INSULATION
SI = Supplementary INSULATION
see also Form A.15 for further details

NOTE 2 - Types of voltage
Peak impulse test voltage (pulse)
r.m.s.
d.c.
peak

NOTE 3 - OVERVOLTAGE CATEGORIES or POLLUTION DEGREES which differ should be shown under "Comments"

Supplementary Information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.7	**TABLE: Insulation requirements- Clearances and Creepages**		**Form A.15**	N/A
6.2.2	Examination	6.5.4	Protective impedance	—
6.4.2	ENCLOSURES and protective barriers	6.5.6	Current- or voltage-limiting device	—
6.4.4	Impedance	9.6.1	BASIC INSULATION between opposite polarity	—

Area	Location (See Form A.14)	Insulation type (NOTE 1)	WORKING VOLTAGE (NOTE 2)			Clearance		Creepage		CTI	Verdict	Comments
			RMS [V]	Peak [V]	Frequency [kHz]	Required [mm]	Measured [mm]	Required [mm]	Measured [mm]			
A												
B												
C												
D												
E												
F												

NOTE 1 – refer to Form A.14 for type of insulation shown in the insulation diagram NOTE 2 - to be used for definition of required insulation (see Form A.14)

Input supply voltage…….:		V		Hz

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.7	**TABLE: Insulation requirements- Clearances and Creepages**			**Form A.16**	N/A
6.4.2	ENCLOSURES or PROTECTIVE BARRIERS	9.6.1	Overcurrent protection basic insulation between MAINS parts		—
8	Mechanical resistance to shock and impact	10.5.1	Integrity of CLEARANCES and CREEPAGE distances		—

Area	Location (See Form A.14)	Insulation type	Mechanical tests (NOTE)					Test at max.	Measured after test (if required)		Verdict	Comments
			Applied force	Rigidity (8.2)		Drop (8.3)		RATED ambient	Clearance	Creepage distance		
			N	Static (8.2.1)	Impact (8.2.2)	Normal (8.3.1)	Hand-held/ Plug-in	(10.5.1)	mm	mm		
A												
B												
C												
D												
E												
F												

NOTE – Refer to Form A.18 for dielectric strength tests following the above tests.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

6.7.2.2.2	**TABLE: Reliability of potted components** **Form A.17 (optional)**	N/A
14.1 b)	**Components and subassemblies**	N/A

Temperature Cycling Test	
Manufacturer ..... :	
Type ..... :	
Construction ..... :	
Potting compound..... :	
CREEPAGE distances measured..... :	
CLEARANCES measured..... :	
Thickness through insulation..... :	
Adhesive test Pass/Fail ..... :	
Test temperature T °C ..... :	

Cycles at U= AC 500 V				Leakage current (500 V) mA			
Number of cycles	Date			68 h / 125 °C	1 h / 25 °C	2 h / 0 °C	1 h / 25 °C
1. Cycle from		to					
2. Cycle from		to					
3. Cycle from		to					
4. Cycle from		to					
5. Cycle from		to					
6. Cycle from		to					
7. Cycle from		to					
8. Cycle from		to					
9. Cycle from		to					
10. Cycle from		to					

After Cycling Test :		
Humidity conditioning	48 h	
Requirements for dielectric strength (s. insulation diagram)	Test voltage V r.m.s	Verdict
Basic insulation _____ V r.m.s.		
Supplementary insulation _____ V r.m.s.		
Reinforced insulation _____ V r.m.s.		
NOTE - to be used for evaluation of components containing insulation through solid insulation, when the component standard require thermal cycling test. Ref Clause 14.1 and Figure 15, option b)		
Supplementary information:		

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.8	**TABLE: Dielectric strength tests**	**Form A.18**	P
4.4.4.1 b)	Conformity after application of SINGLE FAULT CONDITIONS[1]		P
6.4	Primary means of protection[2]		P
6.6	Connections to external circuits		N/A
6.7.	Insulation requirements[2] (see Annex K)		N/A
6.10.2	Fitting of non-detachable MAINS supply cords[1]		N/A
9.2 a) 2)	Eliminating or reducing the sources of ignition within the equipment		N/A
9.4 c)	Limited-energy circuit		N/A
9.6.1	Overcurrent protection basic insulation between MAINS - parts		N/A
	Test site altitude ..... :	60m	—
	Test voltage correction factor (see table 10)..... :	1.16	—

Location or references from Forms A.1 and A.14	Clause or sub-clause	Humidity	Working voltage	Test voltage	Comments (NOTE)	Verdict
		Yes/No	V	r.m.s./peak/ d.c.		
PS	6.8, 4.4.4.1b), 6.4	No	240	1752rms		P
Enclosure	6.4	No	240	2803rms		P

[1] Record the fault, test or treatment applied before the dielectric strength test. [2] Humidity preconditioning required.
NOTE: Test duration may be recorded.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-01 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.10.2	TABLE: Cord anchorage					Form A.19 N/A
Location	Mass [kg]	Pull [N]	Verdict	Torque [Nm]	Verdict	Comment
Dielectric strength test for 1 min. (6.8.3.1) ....:				V r.m.s.		
Supplementary information:						

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

7.	**TABLE: Protection against mechanical HAZARDS** **Form A.20**	N/A
7.3.4	Limitation of force and pressure	—
7.3.5	Gap limitations between moving parts	—

Part / Location	Clause 7.3.4		Clause 7.3.5.1								Clause 7.3.5.2			Verdict	Comments
	Continuous	Temporary	Minimum gaps [mm]								Maximum gaps [mm]				
	Contact pressure max. 50 N /cm² @ max. 150 N	max. 250 N / 3 cm² @ max. 0,75 s	Torso 500	Head 300	Leg 180	Foot 120	Toes 50	Arm 120	Hand 100	Finger 25	Head 120	Foot 35	Finger 4		

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1				
Clause	Requirement – Test	Result - Remark		Verdict
8.2	**ENCLOSURE rigidity test**		**Form A.21A**	N/A
8.2.1	Static test			N/A
	Material of enclosure .....:	Metal / non-metallic		—
	Preparation for the test:			—
	Operated at ambient temperature .....:	° C	h	—
Location		Comments		Verdict
1)				
2)				
3)				
4)				
Supplementary information:				
8.2.2	**Dynamic test**			N/A
	Material of enclosure .....:	Metal / non-metallic		—
	Corresponding IK-code.....:			—
	Preparation for the test:			—
	Cooled to (temperature).....:	° C		—
Location		Comments		Verdict
1) Top				
2) Side left / right				
3) Bottom				
Supplementary information: Previous evaluated				

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1				
Clause	Requirement – Test		Result - Remark	Verdict
8.3	**Drop test**		**Form A.21B**	N/A
8.3.1	Other equipment			N/A
Location	Raised up to		Comments	—
	[mm]	30 °		—
1)				
2)				
3)				
4)				
Supplementary information:				
8.3.2	Hand-held EQUIPMENT and direct plug-in equipment			N/A
	Material of enclosure .....:		Metal / non-metallic	—
	Preparation for the test:			—
	Cooled to (temperature).....:		° C	—
Location			Comments	Verdict
1) Side				
2) Edge				
3) Corner				
Supplementary information: Previous evaluated				

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9	**TABLE: Protection against the spread of fire**			**Form A.22**	P
Item	Source of HAZARD or area of the equipment considered (circuit, component, liquid etc.)	Protection Method (9.1 a, b or c)	Protection details		Verdict
1	Component	a, b, c	External Certified power supply		P
Supplementary information:					

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9.3.2	**TABLE: Constructional requirements**	**Form A.23**	N/A
14.7	Printed circuit boards		N/A

Material tested .....:		—
Generic name .....:		—
Material manufacturer .....:		—
Type .....:		—
Colour.....:		—
Conditioning details.....:		—

		Sample					
		1	2	3	4	5	6
Thickness of specimen	mm						
Duration of flaming after first Application	s						
Duration of flaming plus glowing After second application	s						
Specimen burns to holding clamp	Yes/No						
Cotton ignited	Yes/No						
Sample result	Pass/Fail						

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9.4	**TABLE: Limited-energy circuit**					**Form A.24**	N/A
Item or Location (see Form A.22)	9.4 a) Maximum potential in circuit voltage r.m.s./d.c. [V]	9.4 b) Current limitation (NOTE) Maximum available current [A]	Overload protection after 120 s [A]	9.4 c) Circuit separation	Decision Yes/No	Comments	

NOTE – Maximum values see Tables 17 and 18 of IEC 61010-1

Supplementary information:

TESTED BY: ACF DATE: 2014-07-03 TEST EQUIPMENT LIST ITEM: N/A

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9.5	**TABLE: Requirements for equipment containing or using flammable liquids**		**Form A.25**	N/A
Type of liquid	9.5 Flammable liquids			Verdict
	b) Quantity	c) Containment		
Supplementary information:				

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.	**TABLE : Temperature Measurements** **Form A.26A**	P
10.1	Surface temperature limits – NORMAL CONDITION and / or SINGLE FAULT CONDITION	P
10.2	Temperature of windings – NORMAL CONDITION and / or SINGLE FAULT CONDITION	N/A
10.3	Other temperature measurements	N/A

Operating conditions:	On		
Frequency ..... :	60 Hz	Test room ambient temperature (ta) .. :	23.0 °C
Voltage ..... :	264 V	Test duration ..... :	0 h 33 min

Part / Location	t_m [°C]	t_c [°C]	t_{max} [°C]	Verdict	Comments
Right side of enclosure	34.7	51.7	85	P	
LCD Screen	29.8	46.8	85	P	
Enclosure near LCD	33.9	50.9	85	P	
P/S	35.3	52.3	105	P	
ZFC100-04	46.5	63.5	70	P	
Battery	31.7	48.7	70	P	

NOTE 1 - t_m = measured temperature
t_c = t_m corrected (t_m–t_a+ **40 °C** or max. RATED ambient)
t_{max} = maximum permitted temperature
NOTE 2 - see also 14.1 with reference to component operating conditions
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary
NOTE 4 - see Form A.26B for details of winding temperature measurements

Supplementary information:

TESTED BY: ACF DATE: 2014-06-30 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.	**TABLE : Temperature Measurements** **Form A.26A**	P
10.1	Surface temperature limits – NORMAL CONDITION and / or SINGLE FAULT CONDITION	P
10.2	Temperature of windings – NORMAL CONDITION and / or SINGLE FAULT CONDITION	N/A
10.3	Other temperature measurements	N/A

Operating conditions:	On		
Frequency ..... :	60 Hz	Test room ambient temperature (ta) .. :	23.6 °C
Voltage ..... :	90 V	Test duration ..... :	0 h 42 min

Part / Location	t_m [°C]	t_c [°C]	t_{max} [°C]	Verdict	Comments
Right side of enclosure	35.0	51.4	85	P	
LCD Screen	30.3	46.7	85	P	
Enclosure near LCD	34.7	51.1	85	P	
P/S	36.2	52.6	105	P	
ZFC100-04	46.7	63.1	70	P	
Battery	32.1	48.5	70	P	

NOTE 1 - t_m = measured temperature
t_c = t_m corrected (t_m–t_a+ **40 °C** or max. RATED ambient)
t_{max} = maximum permitted temperature
NOTE 2 - see also 14.1 with reference to component operating conditions
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary
NOTE 4 - see Form A.26B for details of winding temperature measurements

Supplementary information:

TESTED BY: ACF DATE: 2014-06-30 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.	**TABLE : Temperature Measurements** **Form A.26A**	P
10.1	Surface temperature limits – NORMAL CONDITION and / or SINGLE FAULT CONDITION	P
10.2	Temperature of windings – NORMAL CONDITION and / or SINGLE FAULT CONDITION	N/A
10.3	Other temperature measurements	N/A

Operating conditions:	On		
Frequency ..... :	50 Hz	Test room ambient temperature (ta) .. :	24.0 °C
Voltage ..... :	264 V	Test duration ..... :	1 h 3 min

Part / Location	t_m [°C]	t_c [°C]	t_{max} [°C]	Verdict	Comments
Right side of enclosure	34.7	50.7	85	P	
LCD Screen	29.8	45.8	85	P	
Enclosure near LCD	33.9	49.9	85	P	
P/S	35.3	51.3	105	P	
ZFC100-04	46.5	62.5	70	P	
Battery	31.7	47.7	70	P	

NOTE 1 - t_m = measured temperature
t_c = t_m corrected (t_m–t_a+ **40 °C** or max. RATED ambient)
t_{max} = maximum permitted temperature
NOTE 2 - see also 14.1 with reference to component operating conditions
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary
NOTE 4 - see Form A.26B for details of winding temperature measurements

Supplementary information:

TESTED BY: ACF DATE: 2014-06-30 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.	**TABLE : Temperature Measurements** **Form A.26A**	P
10.1	Surface temperature limits – NORMAL CONDITION and / or SINGLE FAULT CONDITION	P
10.2	Temperature of windings – NORMAL CONDITION and / or SINGLE FAULT CONDITION	N/A
10.3	Other temperature measurements	N/A

Operating conditions:	On		
Frequency ..... :	50 Hz	Test room ambient temperature (ta)... :	23.7 °C
Voltage ..... :	90 V	Test duration ..... :	1 h 15 min

Part / Location	t_m [°C]	t_c [°C]	t_{max} [°C]	Verdict	Comments
Right side of enclosure	34.8	51.1	85	P	
LCD Screen	30.1	46.4	85	P	
Enclosure near LCD	34.2	50.5	85	P	
P/S	35.6	51.9	105	P	
ZFC100-04	46.1	62.4	70	P	
Battery	31.9	48.2	70	P	

NOTE 1 - t_m = measured temperature
t_c = t_m corrected (t_m–t_a+ **40 °C** or max. RATED ambient)
t_{max} = maximum permitted temperature
NOTE 2 - see also 14.1 with reference to component operating conditions
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary
NOTE 4 - see Form A.26B for details of winding temperature measurements

Supplementary information:

TESTED BY: ACF DATE: 2014-06-30 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.2	**TABLE: Temperature of windings** **Form A.26B** **Resistance method Temperature Measurements**	N/A
4.4.2.7	MAINS transformers	N/A
14.2.1	Motor temperatures	N/A

Operating conditions ..:								
Frequency .....:	Hz	Test room ambient temperature (ta1/ta2).:					/	°C (initial / final)
Voltage .....:	V	Test duration .....:					h	min
Part / Designation	Rcold [Ω]	Rwarm [Ω]	Current [A]	t_r [K]	t_c [°C]	t_{max} [°C]	Verdict	Comments

NOTE 1- R_{cold} = initial resistance R_{warm} = final resistance
t_r = temperature rise $t_c = t_r$ corrected ($t_c = t_r - \{ t_{a2} - t_{a1} \} + [40\ °C$ or max RATED ambient])
t_{max} = maximum permitted temperature
NOTE 2 - Indicate insulation class (IEC 60085) under comments (optional)
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.5.2	**TABLE: Resistance to heat of non-metallic ENCLOSURES**	**Form A.27**	N/A
	Test method used:		—
	Non-operative treatment .....:	[ ]	
	Empty ENCLOSURE.....:	[ ]	
	Operative treatment .....:	[ ]	
	Temperature during tests .....:		—

Description	Material	Comments	Verdict

Dielectric strength test (6.8) .....:		V	r.m.s./peak/d.c.	

NOTE – Within 10 minutes of the end of treatment suitable tests in acc. to 8.2 and 8.3 must be conducted and pass criteria of 8.1.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.5.3	**TABLE: Insulating Materials**	**Form A.28**	N/A
10.5.3 1)	Ball-pressure test		N/A
	Max. allowed impression diameter .....:	2 mm	—

Part	Test temperature [°C]	Impression diameter [mm]	Verdict

Supplementary information:

10.5.3 2)	**Vicat softening test (ISO 306)**	**Form A.29**	N/A

Part	Vicat softening temperature [°C]	Thickness of sample [mm]	Verdict

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

8	**TABLE: Mechanical resistance to shock and impact** **Form A.30**	P
11	**Protection against HAZARDS from fluids**	P

Voltage tests can be carried out once after performing the tests of clause **8** and clause **11**. However, if voltage tests are carried out separately after each set of tests, two forms can be used.

Location (see Form A.14)	Clause 8 tests				Clause 11 tests				Working voltage [V]	Test voltage [V]	Verdict	Comments
	Static (8.2.1) 30 N	Impact (8.2.2)	Normal (8.3.1)	Handheld Plug-in	Cleaning (11.2)	Spillage (11.3)	Overflow (11.4)	IEC 60529 (11.6)				
Enclosure	P	P	N/A	P	P	N/A	N/A	N/A	12-18Vdc	810Vdc	P	

NOTE – Use r.m.s., d.c. or peak to indicate the used test voltage.

Supplementary information:
Data taken from report 101083788BOX-001f

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: See Test Equipment List

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

11.7.2	**TABLE: Leakage and rupture at high pressure**	**Form A.31**	N/A

Part	Maximum permissible working pressure [MPa]	Test pressure [MPa]	Leakage Yes / No	Deformation Yes / No	Burst Yes / No	Comments

NOTE – see also Annex G with requirements for USA and Canada.

Supplementary information:

11.7.3	**Leakage from low-pressure parts**	**Form A.32**	N/A

Part	Test pressure [MPa]	Leakage Yes / No	Comments

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

12.2.1	**TABLE: Ionizing radiation**	**Form A.33**	N/A
12.2.1.2	Equipment intended to emit radiation		N/A

Locations tested	Measured values [µSv/h]	Verdict	Comments

Supplementary information:

12.2.1.3	Equipment not intended to emit radiation	**Form A.34**	N/A
	Max. allowed effective dose rate at 100 mm……:	1 µSv/h	—

Locations tested	Measured values [µSv/h]	Verdict	Comments

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

12.5.1	**TABLE: Sound level**	**Form A.35**	N/A

Locations tested	Measured maximum sound pressure level dB(A)	Calculated maximum sound power level
At operator's normal position and at bystanders' positions		
a)		
b)		
c)		
d)		
e)		
f)		

Supplementary information:

12.5.2	Ultrasonic pressure	**Form A.36**	N/A

Locations tested	Measured values		Comments
	[dB]	[kHz]	
At operator's normal position			
At 1 m from the ENCLOSURE			
a)			
b)			
c)			
d)			
e)			

NOTE – No limit is specified at present, but a limit of 110 dB above the reference pressure value of 20 μPa is under consideration for applicable frequencies between 20 kHz and 100 kHz.

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

13.2.2	**TABLE: Batteries**	**Form A.37**	NA
	Battery load and charging circuit diagram:		
	Battery type ..... :		—
	Battery manufacturer/model/catalogue No..... :		—
	Battery ratings ..... :		—
	Reverse polarity instalment test		N/A

Single component failures	Verdict	
Component	Open circuit	Short circuit

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

14.3	**TABLE: Overtemperature protection devices**	**Form A.38**	N/A

Reliability test			
Component	Type (NOTE)	Verdict	Comments

NOTE:
NSR = non-self-resetting (10 times)
NR = non-resetting (1 time)
SR = self-resetting (200 times)

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

4.4.2.7	**TABLE: MAINS transformer**				**Form A.39**	N/A
4.4.2.7.2	Short circuit					N/A
14.6	MAINS transformers tested outside equipment					N/A
Type .....:						—
Manufacturer .....:						—
Test in equipment						
Test on bench						
Test repeated inside equipment (see 14.6)						
Optional – Insulation class (IEC 60085) of the lowest rated winding..... :						—
Winding identification						
Type of Protector for winding (NOTE 1)						
Elapsed time						
Current, A primary						
secondary						
Winding temperature, °C primary						
(see NOTE 2) secondary						
Tissue paper / cheesecloth OK ? (Pass / Fail)						
Voltage tests (see NOTE 3)						
Primary to secondary	_____ V ____					
Primary to core	_____ V ____					
Secondary to secondary	_____ V ____					
Secondary to core	_____ V ____					
Verdict						

NOTE 1: Primary fuse - PF / ( ) A
Secondary fuse - SF / ( ) A
Overtemperature protection - OP / ( ) °C
Impedance protection - Z

NOTE 2: Indicate method of measurement - TC = with thermocouple
- R = resistance method
If resistance method is used, record resistance in cold and warm condition in FormA.26B.

NOTE 3: Record the voltage applied and the type of voltage (r.m.s. / d.c. / peak) and for results use NB = no breakdown or B = breakdown

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

4.4.2.7	**TABLE: MAINS transformer**				**Form A.40**	N/A
4.4.2.7.3	Overload tests (for MAINS transformers)					N/A
14.6	MAINS transformers tested outside equipment					N/A
Type..... :						—
Manufacturer..... :						—
Test in equipment						
Test on bench						
Test repeated inside equipment (see 14.6)						
Optional – Insulation class (IEC 60085) of the lowest rated winding ..... :						—
Winding identification						
Type of Protector for winding (NOTE 1)						
Elapsed time						
Current, A primary						
secondary						
Winding temperature, °C primary						
(see NOTE 2) secondary						
Tissue paper / cheesecloth OK ? (Pass / Fail)						
Voltage tests (see NOTE 3)						
Primary to secondary	_____ V ____					
Primary to core	_____ V ____					
Secondary to secondary	_____ V ____					
Secondary to core	_____ V ____					
Verdict						

NOTE 1: Primary fuse - PF / ( ) A
Secondary fuse - SF / ( ) A
Overtemperature protection - OP / ( ) °C
Impedance protection - Z

NOTE 2: Indicate method of measurement TC = with thermocouple
R = resistance method
If resistance method is used, record resistance in cold and warm condition in FormA.26B.

NOTE 3: Record the voltage applied and the type of voltage (r.m.s. / d.c. / peak) and for results use NB = no breakdown or B = breakdown

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

14.8	**TABLE: Transient overvoltage limiting devices**	**Form A.41**	N/A

Component / Designation	Overvoltage Category	MAINS voltage [V rms]	Test voltage [V]	t_m [°C]	t_c [°C]	t_{max} [°C]	Rupture Yes / No	Circuit breaker tripped	Verdict	Comments

Test room ambient temperature ….: °C

NOTE - t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ **40 °C** or max. RATED ambient)

t_{max} = maximum permitted temperature

Conformity is checked by applying 5 positive and 5 negative impulses with the applicable impulse withstand voltage, spaced up to 1 min apart, from a hybrid impulse generator (see IEC 61180-1).

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

Annex H	**TABLE: Qualification of conformal coating for protection against pollution**	**Form A.42**	N/A

Technical properties		
Manufacturer		—
Type		—
Meet requirements of ANSI / UL 746E	[yes / no]	
Manufacturer declaration of coating material	[yes / no]	
Operating temperature of coating	[ ] °C	
Comparative tracking index (CTI)	[ ]	
Insulation resistance	[ ] Ω	
Dielectric strength	[ ] V	
UV resistance (if required)	[yes / no]	
Flammability rating		
Preparation of the test specimens conducted	[yes / no]	

Item	Test conditioning	Parameter	Td	Samples						Verdict	Comments
			h	1	2	3	4	5	6		
1	Scratch resistance										
	Visual inspection										
2	Cold		24								
3	Dry heat		48								
4	Rapid temp. change										
5	Damp heat		24								
6	Adhesion of coating	5 N									
	Visual inspection										
7	Humidity		48								
8	Insulation resistance	>= 100 Ω									
	Visual inspection										

NOTE Td = Test duration time

Supplementary information:

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

	TABLE: Additional or special tests conducted	**Form A.43**	N/A
Clause and name of test	Test type and condition	Observed results	—
Supplementary information:			

TESTED BY: ACF DATE: 2014-07-02 TEST EQUIPMENT LIST ITEM: NA

TEST EQUIPMENT LIST					
Item	**Equipment Type**	**Make**	**Model No.**	**Serial No.**	**Next Cal. Due**
1	Weather condition Station*	Davis Instruments	Vue / 6351	G120802D005	01/31/2015
2	Data Acquistion/Switch Unit	Agilent	34970A	MY44060897	09/23/2014
3	A/C Power Source	Chroma	6430	643000001083	05/22/2015
4	20 Channel Multiplexer	Agilent	34901A	MY41135403	07/10/2014
5	Power Analyzer	Extech	380801	02510112	09/03/2014
6	Capacitance meter	TENMA	72-8150	1130264194	04/08/2015
7	Medical/ITS/Industrial switch and leakage test box	ITS	JP2	SAF466	04/11/2015
8	Digital Multimeter	Fluke	87 III	74851042	04/30/2015
9	Articulated Access Probe	ED&D	Baltimore-201	0095	03/31/2015
10	Electrical safety Compliance Analyzer	Associated Research	8006	9340041	02/03/2015
11	Digital Timer/ Stopwatch	General	TI170	SAF1166c	10/19/2014
12	Isopropyl Alcohol	ITS	Isopropyl Alcohol	SAF485	12/18/2014

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

	TABLE 1: - List of components and circuits relied on for safety		P

Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)
Enclosure	Enclosure	GE Plastics	CYCOLOY C6200	V0	UL94	UL
Display	Display	CHIMEI InnoLux.	G104AGE-L02	5VDC and 12VDC Typ.	UL 1069	UR, CSA
Keyboard (not shown)	Keyboard (not shown)	Interchangeable	Interchangeable	5Vdc	Test per IEC 61010-1	NR
Heater (Not shown)	Heater (Not shown)	Minco	HM23123	33W @ 11V	UL 499	UL
Heater (Not shown)	Heater (Not shown)	Minco	HR5457	20W	UL 499	UL
DC to DC Convertor	DC to DC Convertor	Pico	15SMV900	1.25W, 15V in, 1.5KV out	IEC 60950-1 2006, UL 1012	UL
DC to DC Convertor	DC to DC Convertor	Pico	15AV1500	1.25W, 15V in, 1.5KV out	IEC 60950-1 2006, UL 1012	UL
On/Off switch	On/Off switch	Interchangeable	Interchangeable	24VDC @ 10mA	UL 1024, CSA 22.2	RU, CSA
DC Fuseholder	DC Fuseholder	Interchangeable	Interchangeable	16A 250V, 5x20mm	UL 4248-1	RU, CSA
DC Fuse	DC Fuse	Interchangeable	Interchangeable	8A 250V 5x20mm time lag	UL248-14, IEC 60127	UL, CSA
PC Boards	PC Boards	Morpho Detection LLC	Interchangeable	V0	UL94	UR
Power Supply (not shown)	Power Supply (not shown)	XP Power	AHM150PS15	100-240VAC, 1.8A , 50/60Hz	EN60601-1:2006. UL60950-1, CSA60950-1	UR, CSA, TUV, GS

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

	TABLE 1: - List of components and circuits relied on for safety		P

Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)
Battery	Battery	Inspired Energy	MH2054MD31	Rechargeable Lithium ion Cell, 14.4 Vdc, 6,2Ah, 90Wh	IEC 62133	ETL
Power Cord (not Shown)	Power Cord (not Shown)	Interchangeable	Interchangeable	1250 Watts 10A-125V, 105°C	IEC 60320	UL, CSA

NOTE → 1 List all different manufacturers of the above components → 4 asterisk indicates mark assuring agreed level of surveillance
→ 2 May include electrical, mechanical values
→ 3 List licence no or method of acceptance

Attachment 1

ATTACHMENT TO TEST REPORT IEC61010-1 CANADA / US NATIONAL DIFFERENCES (Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1: General requirements)	
Differences according to .....:	National standard CSA C22.2 No. 61010-1-12 / UL 61010-1:2012
Attachment Form No. .....:	CA_ND_IEC61010_1I
Attachment Originator.....:	TÜV SÜD Product Service GmbH
Master Attachment .....:	Date (2012-08)

CA / US	**National Differences**		P
	NATIONAL DIFFERENCES of IEC Publication 61010-1, Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1:		—
1.1.4 DV [DR]	This standard applies to equipment to be employed in accordance with ANSI/NFPA 70, National Electrical Code® (NEC); designed to be installed in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1, and CSA C22.2 No. 0; or designed to comply with both the NEC and CEC		P
6.3.1 a) DV [D2]	Voltage levels are 30 V r.m.s. and 42,4 V peak or 60 V d.c. For equipment RATED for use in WET LOCATIONS, the voltage levels are 16 V r.m.s. and 22,6 V peak or 35 V d.c.	Not used in wet location	N/A
6.3.2 a) DV [D2]	Voltage levels are 50 V r.m.s. and 70 V peak or 120 V d.c. For equipment RATED for use in WET LOCATIONS, the voltage levels are 33 V r.m.s. and 46,7 V peak or 70 V d.c.	Not used in wet location	N/A
6.5.2.4 DV [D2]	Plug connected connected Equipment containing all poles disconenction devices the voltage drop does not exceed 4 V a.c.	Certified external power supply provided	N/A
	Equipment contains all pole overcurrent protection of mains supply ; wiring cannot become in contact with accessible parts, test current need not more than twice the rating of overcurrent protection		N/A
	Test current is twice the rating but not less than 40 A		N/A
	Test current more than 500 A, see CAN/CSA-C22.2 No. 0.4		N/A

6.5.2.4 DV.1 [D2]	Duration of protective bonding test <table><tr><td>Value of building MAINS supply overcurrent protection means (A)</td><td>Time (Min)</td></tr><tr><td>0 - 30</td><td>2</td></tr><tr><td>31 - 60</td><td>4</td></tr><tr><td>61 - 100</td><td>6</td></tr><tr><td>101 - 200</td><td>8</td></tr><tr><td>201 and over</td><td>10</td></tr></table>		N/A
6.5.2.5 DV [D2]	Modification: Permanently connected equipment only Replace “1 min” with “the duration specified in Table 6.5.2.4DV.1” and “10 V” with “4 V”	Not permanently connected	—
6.10.1 d) DV.2	Green covered conductors (with or without yellow stripes) are used only for connection to PROTECTIVE CONDUCTOR TERMINALS.	Certified power cord provided for US/CAN	N/A
6.10.1 DV.4	Requirements for MAINS cords or cord sets are contained in ANSI/UL 817 and CSA C22.2 No. 21.	Certified power cord provided for US/CAN	N/A
6.10.1	Requirements for general use receptacles, attachment plugs, and similar wiring devices are contained in ANSI/UL 498 and CSA C22.2 No. 42, CSA C22.2 No. 182.1, CSA C22.2 No. 182.2, and CSA C22.2 No. 182.3.	Certified power cord provided for US/CAN	N/A
6.10.3 DV [D2]	Plugs of MAINS cords are in accordance with ANSI/UL 498 and CSA C22.2 No. 42, CSA C22.2 No. 182.1, CSA C22.2No. 182.2, and CSA C22.2 No. 182.3.	Certified power cord provided for US/CAN	N/A
6.10.4 DV.1	Permanently connected equipment See Annex DVD	Not permanently connected	—
6.11 DV [D2]	Modification of title: Add "and maintaining polarity" to the end of the subclause title.	Modified	—
6.11.5 DV.1	Any line-connected single-pole switch, any center contact of a lampholder, and any automatic control with a marked off position is connected to a TERMINAL or lead intended for connection to the ungrounded conductor of the supply circuit.	Certified external power supply provided	N/A

9.3.2 DV.1 [D2]	Flame RATINGS of ANSI/UL 94 V-0, V-1, and V-2 are equivalent to the flammability classifications of IEC 60695-11-10		P
	Flammability RATINGS FT-1 of CSA C22.2 No. 0.3 and VW-1 of ANSI/UL 1581 are also considered acceptable for insulated wire and cable.		P
9.6.1 ADV D2	Overcurrent protective devices		N/A
9.6.1 ADV.1	Overucrrent protective device connected to the ungrounded supply connector.	Certified external power supply provided	N/A
9.6.1 ADV.2	Multiple-pole circuit breaker interrupta all neutral and ungrounded connectors of mains supply simultaneously		N/A
9.6.1 ADV.3	Single-fuse are connected in the ungrounded supply conductor		N/A
9.6.1 ADV.4	Fuseholders for fuses used in both conductors mounted adjacent to each other		N/A
	Fuses of same ratings and characteristics		N/A
9.6.1 ADV.5	The screw shell of a plug fuseholder and the ACCESSIBLE contact of an extractor fuseholder connected to the ungrounded supply conductor is connected towards the load		N/A
	The ACCESSIBLE contact or screw shell of fuseholders connected in the neutral (grounded) conductor is located towards the grounded supply line.		N/A
11.7 DV [D2]	Annex G is normative		—
11.7.1 DV.1	Laboratory equipment and testing and measurement equipment having both of the following characteristics meet the requirements of 11.7.2 and G.5:		—
	- a product of pressure and volume greater than 200 kPa·l, - a pressure greater than 50 kPa.	No pressure	N/A
11.7.1 DV.2	Laboratory equipment and testing and measurement equipment that do not have those characteristics meet the requirements of 11.7.3 and 11.7.4, as applicable.		N/A

11.7.1 DV.3	Other types of equipment meet the requirements of Annex G, as applicable.		P
11.7.2 DV [D2]	Note: National authorities may allow safety to be established by calculation, for example according to the ASME Boiler and Pressure Vessel Code.	None provided	—
12.1 DV1 [D2]	NOTE 1A: In the USA, x-ray equipment is within the scope of 21 CFR 1020 and laser equipment is within the scope of 21 CFR 1040. In Canada, both are within the scope of the Canadian Radiation Emitting Devices Act.	None provided	—
12.3 DV [DV2]	NOTE 2A The ACIGH UV Guidelines, UL 746C, and CSA C22.2 No. 0.17 provide useful guidance to the RISK assessment.	None provided	—
14.1 DV [DV2]	Where safety is involved, components comply with applicable safety requirements specified in relevant ANSI, CAN, CSA, IEC, ISO, or UL standards, as appropriate.	Certified components provided	N/A
14.7 DV [D2]	Flame RATINGS of ANSI/UL 94 V-1 or CAN/CSA C22.2 No. 0.17 is considered equivalent to the same classifications of IEC 60695-11-10		P
14.9 DV.1	Enclosures intended for outdoor use Nonmetallic enclosures intended for outdoor use meet the UV resistance requirements of ANSI/UL 746C or of CSA C22.2 No. 0.17, or both as appropriate.	Not used outdoors	N/A
14.9 DV.1	Conductive coatings		P
14.10 ADV.1.2	Compliance with the requirements in 14.9ADV.1 is checked by:		—
	a) Evaluating the bond in accordance with the requirements for “Adhesives” in ANSI/UL 746C and/or CSA C22.2 No.0.17, or		P
	b) Evaluating the product to determine that peeling or flaking of the coating would not reduce spacings or bridge live parts so as to introduce a risk of fire or electric shock.		P
14.10 DV.2.1	If peeling of the conductive shield or tape may introduce a risk of fire or electric shock, the bond between a conductive shield or tape and any other surface is investigated.		N/A

14.11 DV.1	Direct plug-in transformer units are subject to additional requirements found in ANSI/UL 1310, CAN/CSA C22.2 No. 223, or in both standards.	Not a direct plug-in	N/A
Annex G	Modification by replacing "informative" with "normative" in the heading of Annex G, and add the following text: See 11.7.1DV for cases in which Annex G applies.	Modified	—
DVC D2	Addition of a new annex DVC as follows:		P
DVC.1	General		N/A
DVC.1.1	threshold limit values (TLVs) refer to ultraviolet (UV) radiation in the spectral region between 180 and 400 nm and represent conditions under which it is believed that nearly all workers may be repeatedly exposed without adverse health effects.	None provided	—
DVC.1.2	These values should be used as guides in the control of exposure to UV sources and should not be regarded as a fine line between safe and dangerous levels.	None provided	—
DVC.2.1	The TLVs for occupational exposure to UV radiation incident upon skin or eye where irradiance values are known and exposure time is controlled are as follows:	None provided	—
	a) UV-A (315 to 400 nm) radiation to the unprotected eye:	None provided	N/A
	- For exposure times less than 1 000 seconds, the total energy should not exceed 1 J/cm2 (1 000 mJ/cm2)		N/A
	- For exposure times greater than 1000 seconds, the average power level should not exceed 1 mW/cm2; and no 1000 second time period should present a total energy that exceeds 1 J/cm2 (1000 mJ/cm2).		N/A
	b) For monochromatic sources, the TLV for exposure to the unprotected skin or eye is shown in Table DVC.2.1.1 (also represented in Figure DVC.2.1.1) and should not be exceeded within an 8-hour period.		N/A
	c) For broad-spectrum or multi-peak sources, the TLV for exposure of the unprotected skin or eye should be calculated		N/A

	d) For most white-light sources and all open arcs, the weighting of spectral irradiance between 200 and 315 nm should suffice to determine the effective irradiance.	None provided	N/A
	- specialized UV sources designed to emit UV-A radiation would normally require spectral weighting from 315 to 400 nm.		N/A
	All of the preceding TLVs for UV energy apply to sources which subtend an angle less than 80°		N/A
	Sources which subtend a greater angle need to be measured only over an angle of 80°		N/A
Annex DVD	Equipment intended for permanent connection		
DVD.1.1	Equipment intended for permanent connection to the mains has provision for connection of a wiring system in accordance with ANSI/NFPA 70, NEC, with CSA C22.1, CEC, Part I or with both as appropriate and meet the requirements of DVD.2 to DVD.3	Not permanently connected	N/A
DVD.2	Wiring terminals and leads		N/A
DVD.2.1.1	PERMANENTLY CONNECTED EQUIPMENT is provided with TERMINALS or leads for the connection of conductors having an ampacity that, in accordance with the National Electrical Code and/or the Canadian Electrical Code, Part I, is acceptable for the equipment.	Not permanently connected	N/A
DVD.2.1.2	A TERMINAL or splice compartment is complete and		N/A
	the top, all sides, and a complete bottom are provided when the equipment is shipped from the factory and		N/A
	enclose all FIELD WIRING TERMINALS and splices intended to be made in the field		N/A
	Equipment with an ENCLOSURE that is complete need not be provided with a separate compartment.		N/A
DVD.2.1.3	The TERMINAL or splice compartment in which mains connections to PERMANENTLY CONNECTED EQUIPMENT are made is located so that:		—
	a) Internal wiring and electrical components are not exposed to mechanical damage or strain while connections are being made, and		N/A
	b) These connections may be readily inspected after the equipment is installed as intended.		N/A

DVD.2.2	Wiring Terminals		N/A
DVD.2.2.1	Wiring TERMINALS provide effective connections, by use of screws, nuts or equally effective devices	Not permanently connected	N/A
DVD.2.2.2	Wire binding screws are permitted as follows:		—
	a) A No. 6 or M4 screw may be used to connect a 14 AWG (2,1 mm²) or smaller wire.	Not permanently connected	N/A
	b) A No. 8 or M4.5 screw may be used to connect a 12 AWG (3,3 mm²) or smaller wire.		N/A
	c) A No. 10 or M5 screw may be used to connect a 10 AWG (5,3 mm²) or smaller wire.		N/A
DVD.2.3.1	The free length of a lead inside a wiring compartment is at least 6 inches (150 mm).		N/A
DVD.2.4	TERMINAL and lead identification		N/A
DVD.2.4.1	TERMINALS and leads are identified in a manner that will permit the equipment to be connected as intended by the manufacturer	Not permanently connected	N/A
DVD.2.4.2	An identified neutral (grounded) conductor for equipment with a mains-connected polarized convenience receptacle		N/A
	An identified neutral (grounded) conductor for equipment with a mains-connected polarized lamp socket		N/A
DVD.2.4.3	A wiring TERMINAL intended solely for connection of the neutral (grounded) mains conductor is readily distinguishable from all other TERMINALS		N/A
	Constructed of, or plated with, metal that is substantially white in color or		N/A
	Clearly identified in some other manner, such as on a wiring diagram permanently attached to the equipment		N/A
DVD.2.4.4	A lead intended solely for field wiring connection to the neutral (grounded) mains conductor is readily distinguishable from all other leads by means to show a white or natural gray color		N/A
DVD.2.5	The protective grounding (earthing) TERMINAL is marked in accordance with 5.1.5.2 (b) or		N/A
	marked „G,“ _GR,“ „GND,“ „GRD,“ „GROUND,“ or „GROUNDING“ or		N/A

	provided with a green colored screwhead that is hexagonal, slotted, or both.	Not permanently connected	N/A
DVD.2.6	A lead intended for field connection to the protective grounding conductor is readily distinguishable from all other leads by being finished to show a green color with or without yellow stripes.		N/A
DVD.3	ENCLOSURE requirements for conduit entry		N/A
DVD.3.1	ENCLOSURE does not pull apart or sustain damage	Not permanently connected	N/A
	Knockouts remain in place		N/A
DVD.3.2	Uncoated sheet steel enclosure is 0,81 mm thick minimum		N/A
	Galvanized sheet steel enclosure is 0,86 mm thick minimum		N/A
	Aluminum sheet enclosure is 1,11 mm thick minimum		N/A
	Copper or brass sheet enclosure is 1,09 mm thick minimum		N/A
	NOTE: ENCLOSURES complying with ANSI/UL 50 are deemed to comply with DVD.4.1 and DVD.4.2.		—
DVD.4	Conduit ENCLOSURE entry tests		N/A
DVD.4.1	Conduit pull-out test (890N, 5 min)		N/A
DVD.4.2.1	Conduit torque test		N/A
	Tightening torque ..... :		—
DVD.4.3	A length of conduit at least 1 ft (300 mm) long of the intended size is installed:		—
	1) In the center of the largest unreinforced surface, or	Not permanently connected	N/A
	2) In a hub or an opening if provided as part of the ENCLOSURE.		N/A
	Weight W hung at the conduit (lb or kg) ..... :		—
	Length L of the conduit (in or m) ..... :		—
	Weight C of the conduit (lb or kg) ..... :		—
	Bending moment M (lb-in or Nm) ..... :		—
	Horizontal mounting plane of surface used		N/A
	Vertical mounting plane of surface used		N/A
	Metallic conduit		N/A

	Nonmetallic conduit		N/A
DVD.4.4	Knockouts subjected to a force of 20 lb (89 N)		N/A

Attachment 1

ATTACHMENT TO TEST REPORT IEC61010-1 SWITZERLAND NATIONAL DIFFERENCES (Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1: General requirements)	
Differences according to..... :	SN EN 61010-1:2010
Attachment Form No..... :	CH_ND_IEC61010_1I
Attachment Originator..... :	TÜV SÜD Product Service GmbH
Master Attachment..... :	Date (2012-08)

	National Differences		P
1	Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury. Switches containing mercury such as thermostats, relays and level controllers are not allowed.	None provided	N/A
	Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 batteries containing cadmium and mercury. Swiss national deviation to EC-battery directives.		N/A
	Amount of cadmium less then 0.015% in carbon-zinc batteries	None provided	N/A
	Amount of cadmium (%) .....:		—
	Built-in batteries have less the 0.0005% cadmium, 0.0005% mercury or 0.1% lead		N/A
	Amount of cadmium (%) .....:		—
	Amount of mercury (%) .....:		—
	Amount of lead (%) .....:		—
5.1.3	Supply cords of portable electrical appliances having a rated current not exceeding 10 A is provided with a plug complying with IEC 60884-1 (3.ed.) + am1, SEV 1011 and one of the following dimension sheets:	Supplied by end user	N/A
	- SEV 6532-2.1991 Plug Type 15 3P + N + PE, 250/400V, 10A		N/A
	- SEV 6533-2.1991 Plug Type 11 L + N, 250V, 10A		N/A

	- SEV 6534-2.1991 Plug Type 12 L + N + PE, 250V, 10A		N/A
	Supply cords of portable electrical appliances having a rated current not exceeding 16 A is provided with a plug complying with IEC 60884-1(3.ed.) + am1, SEV 1011 and one of the following dimension sheets:	Less than 16A	N/A
	- SEV 5932-2.1998 Plug Type 25 3P + N + PE, 250/400V, 16A		N/A
	- SEV 5933-2.1998 Plug Type 21 L + N, 250 V, 16A		N/A
	- SEV 5934-2.1998 Plug Type 23 L + N + PE, 250 V, 16A		N/A
	NOTE 16 A plugs are not often used in Swiss domestic installation system		—
	Removable adapters for Swiss plugs: A removable adapter is not fixed to the original plug and can be removed without damage. Removable adapters are allowed in Switzerland for temporary use e.g. tourists or trade fairs only. They are not accepted for electrical products intended for sale on the Swiss market.		N/A
	Non removable adapters to Swiss plugs: Non removable adapters are fixed to the original plug and cannot be removed without damage the plug. These adapters can be used for products intended for sale in Switzerland. Following restrictions have to be considered:		N/A
	- max. power rating 10A		N/A
	- earth pin corresponds with the protection class		N/A
	- IP protection max. IP20		N/A
	- assembly note has to be attached to the equipment		N/A
	General product safety ordinance on technical installations and appliances PrSV 930.11		N/A
	User, installation and service manual as well as safety relevant notes are in German, French and Italian		N/A

Attachment 1

ATTACHMENT TO TEST REPORT IEC 61010-1
JAPAN NATIONAL DIFFERENCES

Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements

Differences according to..... :	IEC 61010-1:2010 Ed. 3
Attachment Form No..... :	JP_ND_IEC61010_1I
Attachment Originator..... :	TÜV Rheinland Japan Ltd.
Master Attachment..... :	2013-02

National Differences - Japan			
2	Except the first paragraph, replace the existing part of standards with the following (not including "IEC 60799, *Electrical accessories - Cord sets and interconnection cord sets"*, and apply these properly in the following clauses if any: IEC 60027 (all parts), *Letter symbols to be used in electrical technology* JIS C6065:2007, *Audio, video and similar electronic apparatus - Safety requirements, Amendment 1 (2009)* NOTE: IEC 60065:2001 + Amendment 1:2005 (MOD) JIS C60068-2-14:2011, *Environmental testing - Part 2 - 14: Tests - Test N: Change of temperature* NOTE: IEC 60068-2-14:2009 (IDT) JIS C60068-2-75:2004, *Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests* NOTE: IEC 60068-2-75:1997 (IDT) IEC 60073, *Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators* NOTE: At present, as the corresponding JIS, the following exists: JIS C0448:1997, Coding of indicating devices and actuators by colours and supplementary means (IEC 60073:1991 (IDT)) JIS C3662 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V* NOTE: IEC 60227 (all parts) (MOD) JIS C3663 (all parts), *Rubber insulated cables - Rated voltages up to and including 450/750 V* NOTE: IEC 60245 (all parts) (MOD) JIS C8285:2010, *Plugs, socket-outlets and couplers for industrial purposes* NOTE: IEC 60309-1:1999 + Amendment 1:2005 (MOD)	Replaced	P

2	JIS C8283 (all parts), *Appliance couplers for household and similar general purposes* NOTE: IEC 60320 (all parts) (MOD) JIS C3665-1-2:2007, *Tests on electric and optical fibre cables under fire conditions - Part 1 - 2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW premixed flame* NOTE: IEC 60332-1-2:2004 (IDT) IEC 60332-2-2, *Tests on electric and optical fibre cables under fire conditions - Part 2 - 2: Test for vertical flame propagation for a single small insulated wire or cable - Procedure for diffustion flame* JIS C9335-2-24:2005 *Household and similar electrical appliances - Safety - Part 2 - 24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers.* NOTE: IEC 60335-2-24:2002 (MOD) JIS C9335-2-89:2005 *Household and similar electrical appliances - Safety - Part 2 - 89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant condensing unit or compressor* NOTE: IEC 60335-2-89:2002 (MOD) JIS C60364-4-44:2011 *Low-voltage electrical installations - Part 4 - 44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances* NOTE: IEC 60364-4-44:2007 (IDT) IEC 62598, *Nuclear instrumentation - Constructional requirements and classification of radiometric gauges* NOTE: IEC 60405 was replaced by IEC 62598. IEC 60417, *Graphical symbols for use on equipment* JIS C0920:2003, *Degrees of protection provided by enclosures (IP Code)* NOTE: IEC 60529:2001 (IDT) JIS C60664-3:2009, *Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution* NOTE: IEC 60664-3:2003 (IDT) JIS C60695-11-10:2006, *Fire hazard testing - Part 11 - 10: Test flames - 50 W horizontal and vertical flame test methods* NOTE: IEC 60695-11-10:1999 + Amendment 1:2003 (IDT) JIS C6802:2011, Safety of laser products NOTE: IEC 60825-1:2007 (IDT)	Part of Certified power supply	N/A

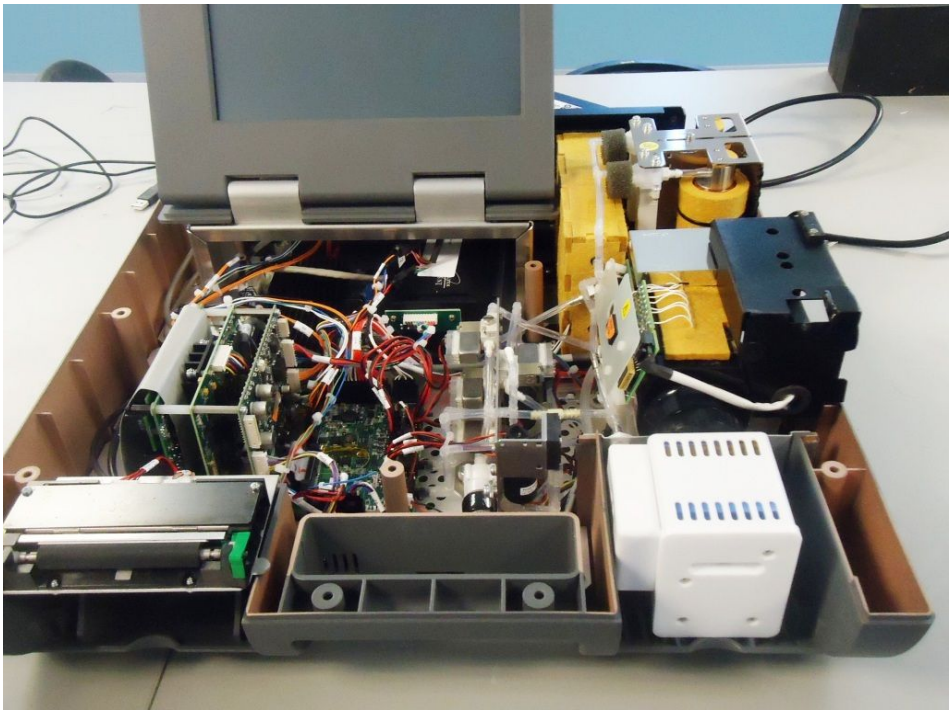
2	JIS C8201-1:2007, *Low-voltage switchgear and controlgear - Part 1: General rules* NOTE: IEC 60947-1:2004 (MOD) JIS C8201-3:2009, *Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units* NOTE: IEC 60947-3:1999 + Amendment 1:2001 + Amendment 2:2005 (MOD) JIS C1010-31:2011, *Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test* NOTE: IEC 61010-031:2008 (Ed. 1.1) (MOD) IEC 61180 (all parts), *High-voltage test techniques for low-voltage equipment* IEC 61180-1, *High-voltage test techniques for low-voltage equipment - Part 1: Definitions, test and procedure requirements* IEC 61180-2, *High-voltage test techniques for low-voltage equipment - Part 2: Test equipment* JIS C1509-1:2005, *Electroacoustics - Sound level meters - Part 1: Specifications* NOTE: IEC 61672-1:2002 (IDT) JIS C1509-2:2005, *Electroacoustics - Sound level meters - Part 2: Pattern evaluation tests* NOTE: IEC 61672-2:2003 (IDT) IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external impacts (IK code)* IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications* ISO/IEC Guide 51, *Safety aspects - Guidelines for their inclusion in standards* JIS K 7206:1999, *Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST)* NOTE: ISO 306:1994 (MOD) ISO 361, *Basic ionizing radiation symbol* ISO 3746, *Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane* ISO 7000, *Graphical symbols for use on equipment* JIS Z8736-1:1999, *Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points* NOTE: ISO 9614-1:1993 (IDT)	None provided	N/A

14	Add the following NOTEs: NOTE 1 - The product or the accessory/component of product may be in scope of the Electrical Appliance and Material Safety Act and/or other regulation(s). If any is in scope of the said regulation(s), it shall at least comply with the legally specified requirements. For example, cords/cables, fuses/thermal links, plugs, sockets, transformers, DC power supply units etc. are subjected to the Electrical Appliance and Material Safety Act. The said Act classifies products into two groups, i.e., Category A products requiring mandatory certification and Category B products not requiring mandatory certification. Information of products subjected to the said Act is available in http://www.meti.go.jp/english/policy/economy/consumer/pse/index.html NOTE 2 - For example, the said Act specifies the applicable standards for product evaluation. However, application of IEC 61010 to the products subjected to the said Act has not been allowed at present. NOTE 3 - Refer to Clause 2.	Certified components provided	P

Attachment 2

Photos

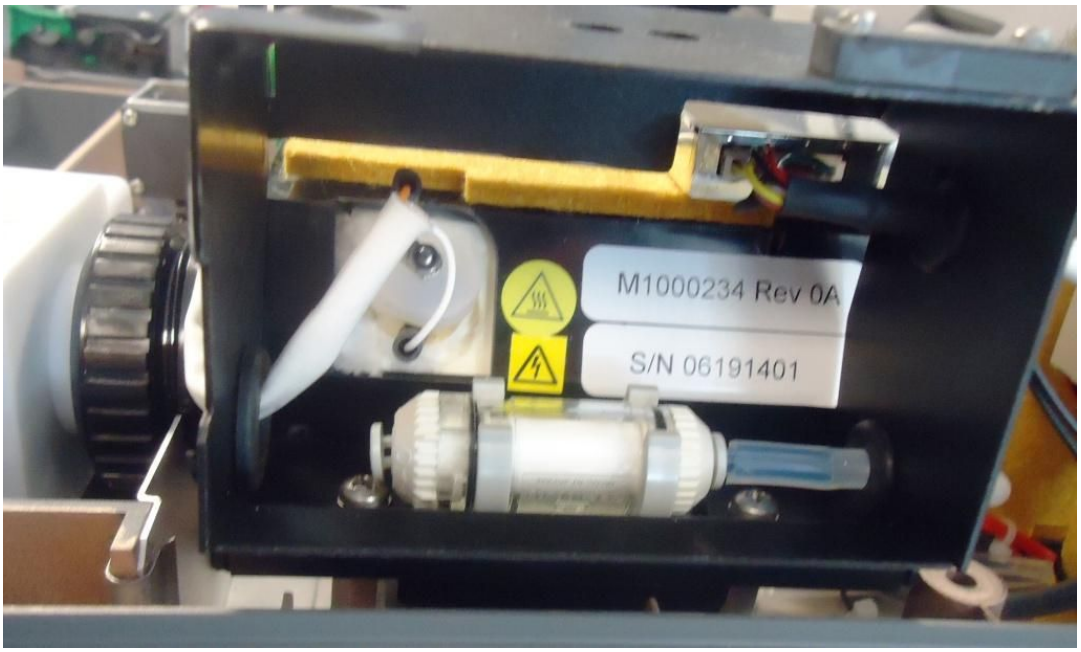
External View



Internal View

Attachment 2

Rear View



Sampling Filter

Attachment 3

		Ref. Certif. No.
IEC IECEE CB SCHEME		SE-75936

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Rechargeable Lithium Ion Battery Pack
Name and address of the applicant Nom et adresse du demandeur	Inspired Energy 25440 NW 8th Place, Newberry, FL 32669, UNITED STATES
Name and address of the manufacturer Nom et adresse du fabricant	Same as above
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème*	Same as applicant
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	14.4V, 6.2Ah, 90Wh
Trademark (if any) Marque de fabrique (si elle existe)	Inspired Energy
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	-
Model / Type Ref. Ref. De type	NH2054MD31
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	-
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 62133:2002
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	101610004CRT-001

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

Intertek Semko AB
Box 1103
SE-164 22 Kista, Sweden
Int +46 8 750 00 00

Date: 22 April 2014

Intertek

Signature:

Bo Berglöf

Attachment 3

	Ref. Certif. No.
IEC IECEE CB SCHEME	US-16498-A1-UL

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

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

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	AC/DC Power Adapter
Name and address of the applicant Nom et adresse du demandeur	XP POWER INC SUITE 150 1241 E DYER RD SANTA ANA CA 92705, USA
Name and address of the manufacturer Nom et adresse du fabricant	XP POWER L L C SUITE 150 1241 E DYER RD SANTA ANA CA 92705, USA
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	XP POWER (KUNSHAN) LTD 230 BIN JIANG NAN RD ZHANGPU TOWN KUNSHAN JIANGSU 215321 CHINA ☒ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Input: 100-240 Vac, 50/60 Hz, 1.8 A Output: See Model Differences section
Trademark (if any) Marque de fabrique (si elle existe)	XP
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	
Model / Type Ref. Ref. De type	AHM150PSXXYY-ZZ See Page 2
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	☒ Additional Information on page 2
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1(ed.2)
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	E139109-A62-CB-1 issued on 2012-04-30

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

UL

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

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

Date: 2012-05-01
Original Issue Date: 2011-01-28

Signature:

Jolanta M. Wroblewska

Attachment 3

	Ref. Certif. No.
	US-16498-A1-UL

Model Details:

AHM150PSXXYY-ZZ (where XX is any number between 12-48 designating output voltage, where YY can be "C2" or blank, and ZZ can be blank or "A", "6", "8", "6A", or "8A", may be provided with or without "-")

Factories:
XP POWER LLC
990 BENECIA AVE
SUNNYVALE CA 94085
USA

Additional Information:

The original report was modified to update Manufacturer and Factory name, model designation, Critical Components Table, add Component and PWB Layout Drawings.

Additionally evaluated to EN60950-1:2006/A11:2009; National Differences specified in the CB Test Report.

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

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

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

Date: 2012-05-01
Original Issue Date: 2011-01-28

Signature:
Jolanta M. Wroblewska

Attachment 4

IP20 (Clause 5.2 of IEC 60529): Protected against access to hazardous parts with a finger

Test Verdict
PASS

Method:

The protection against the ingress of solid foreign objects implies that the object probes up to numeral 2 in table 2 shall not fully penetrate the enclosure. This means that the full diameter of the sphere shall not pass through an opening. in the enclosure.

Results:

Accessible Part	Determination Method	Engineering Comments	Verdict
Entire enclosure	Jointed Test Finger	No hazard	P

Environmental Conditions During Testing:		Humidity (%):	64	Pressure (hPa):	1012.7	Ambient (°C):	21.8
Equipment Used (See Test Equipment List):		9		Equipment under Test:		A	
Engineer's Initials:	ACF	Date Test Performed:	7/1/2014	Reviewers' Initials:	PS	Date Reviewed:	08-10-12