INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
COMMISSION ELECTROTECHNIQUE INTERNATIONALE (CEI)

Ref. Certif. No.
DK-11032

IEC SYSTEM FOR CONFORMITY TESTING AND CERTIFICATION OF ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ ET DE CERTIFICATION DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product *Produit*	**Redundancy Module, Built-In DC/DC**
Name and address of the applicant *Nom et adresse du demandeur*	**Puls GmbH** **Arabellastraße 15** **81925 München, Germany**
Name and address of the manufacturer *Nom et adresse du fabricant*	**PULS GmbH** **Niederwaldstrasse 3** **D-09123 Chemnitz, Germany**
Name and address of the factory *Nom et adresse de l'usine*	**PULS EP k.s.** **ul. Alfonse Muchy 5473** **430 01 Chomutov, Czech Republic**
Rating and principal characteristics *Valeurs norminales et caractéristiques principales*	**IP X0, Class I, see appendix**
Trade mark (if any) *Marque de fabrique (si elle existe)*	**None**
Model/type Ref. *Ref. de type*	**See appendix**
Additional information (if necessary) *Information complémentaire (si nécessaire)*	**Testing done under the Supervised Manufacturer's Testing (SMT) procedure. See appendix**
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*	**PUBLICATION** **IEC 60950-1:2001** **EDITION** **1st**
as shown in the Test Report Ref. No. which form part of this certificate *comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat*	**E137006-A2-CB-1 dated 2007-04-23**

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

Date **2007-04-25**

Signature

Karina Christiansen
Certification manager

UL International Demko A/S
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Internal Ref.:
Paul Zawatson

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Appendix to
CB Certificate No. DK–11032

Additional information:

01: SLR01;	Input: 24-28VDC, 0-40A Output: Vin-0,6V, 0-40A
02; SLR2;	Input 1: 24-28VDV, 0-30A. Input 2: 24-28V(DC), 0-30A Output: Vin-0,5V, 0-30A
03; MLY02;	Input 1: 10-60VDC, 0-10A. Input 2: 10-60VDC, 0-10A Output: Vin-0,9V, 0-10A (Vin = Input Voltage from Input 1 or Input 2)
04; YR2.DIODE.XX;	Input 1:10-60VDC, 0-20A. Input 2: 10-60VDC, 0-20A Output: Vin-0,9V, 0-20A (Vin = Input Voltage from Input 1 or Input 2)
05; YRM2.DIODE.XX;	Input 1:10-60VDC, 0-20A. Input 2: 10-60VDC, 0-20A Output: Vin-0,9V, 0-20A (Vin = Input Voltage from Input 1 or Input 2)

Herlev, 2007-04-25

Karina Christiansen
Certification Manager

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COVER PAGE FOR TEST REPORT

Test Item Description:	Redundancy Module, Built-In DC/DC
Model/Type Reference:	SLR01, SLR02, MLY02 followed by .50X or .51X ; YR2.DIODE.XX and YRM2.DIODE.XX where XX is optional and can be any character or number, not safety relevant.
Rating(s):	SLR01: Input: 24-28VDC; 0-40A. Output: Vin-0,6V; 0-40A. SLR02: Input 1: 24-28VDC; 0-30A. Input 2: 24-28V(DC); 0-30A. Output: Vin-0,5V; 0-30A. MLY02: Input 1: 10-60VDC; 0-10A Input 2: 10-60VDC; 0-10A Output: Vin-0,9V; 0-10A. (Vin= Input Voltage from Input 1 or Input 2). YR2.DIODE.XX and YRM2.DIODE.XX: Input 1: 10-60VDC; 0-20A Input 2: 10-60VDC; 0-20A Output: Vin-0,9V; 0-20A. (Vin= Input Voltage from Input 1 or Input 2).
Standards:	IEC 60950-1:2001, First Edition
Applicant Name and Address:	PULS GMBH ARABELLASTR 15 81925 MUENCHEN GERMANY
Factory Location(s):	PULS EP K.S. UL. ALFONSE MUCHY 5473 430 01 CHOMUTOV, CZECH REPUBLIC

This Report includes the following parts, in addition to this cover page:

1. Specific Technical Criteria
2. Clause Verdicts
3. Critical Components
4. Test Results
5. Enclosures
    a. National Differences
    b. Photographs
    c. Schematics + PWB
    d. Manuals

All applicable tests according to the above standard(s) have been carried out.
Test results are valid only for the tested equipment.
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Test Report issued under the responsibility of:

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TEST REPORT
IEC 60950-1,First Edition
Information technology equipment-Safety
Part 1:General Requirements

Report Reference No ..... :	E137006-A2-CB-1
Date of issue ..... :	2007-04-23
Total number of pages ..... :	47
CB Testing Laboratory ..... :	UL International Germany GmbH
Address ..... :	Prüflabor, Hugenottenallee 175, 63263 Neu-Isenburg, Germany
Applicant's name ..... :	PULS GMBH
Address ..... :	ARABELLASTR 15 81925 MUENCHEN GERMANY
Test specification:	
Standard ..... :	IEC 60950-1:2001, First Edition
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60950_1B
Test Report Form originator ..... :	SGS Fimko Ltd
Master TRF ..... :	dated 2003-03

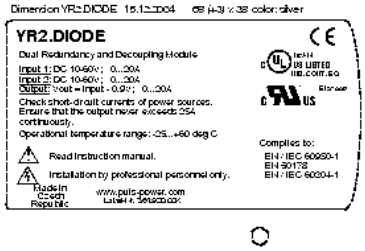
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

Test item description ..... :	Redundancy Module, Built-In DC/DC
Trade Mark ..... :	None
Model/Type reference ..... :	SLR01, SLR02, MLY02 followed by .50X or .51X ; YR2.DIODE.XX and YRM2.DIODE.XX where XX is optional and can be any character or number, not safety relevant.
Manufacturer ..... :	PULS GMBH NIEDERWALDSTRASSE 3 D-09123 CHEMNITZ, GERMANY
Rating ..... :	SLR01: Input: 24-28VDC; 0-40A. Output: Vin-0,6V; 0-40A. SLR02: Input 1: 24-28VDC; 0-30A. Input 2: 24-28V(DC); 0-30A. Output: Vin-0,5V; 0-30A. MLY02: Input 1: 10-60VDC; 0-10A Input 2: 10-60VDC; 0-10A Output: Vin-0,9V; 0-10A. (Vin= Input Voltage from Input 1 or Input 2). YR2.DIODE.XX and YRM2.DIODE.XX: Input 1: 10-60VDC; 0-20A Input 2: 10-60VDC; 0-20A Output: Vin-0,9V; 0-20A. (Vin= Input Voltage from Input 1 or Input 2).

Testing procedure and testing location:			
[ ]	**CB Testing Laboratory**		
	Testing location / address..... :		
[ ]	**Associated CB Test Laboratory**		
	Testing location / address..... :		
	Tested by (name + signature) ..... :		
	Approved by (+ signature) ..... :		
[ ]	**Testing Procedure: TMP**		
	Tested by (name + signature) ..... :		
	Approved by (+ signature) ..... :		
	Testing location / address..... :		
[ ]	**Testing Procedure: WMT**		
	Tested by (name + signature) ..... :		
	Witnessed by (+ signature)..... :		
	Approved by (+ signature) ..... :		
	Testing location / address..... :		
[x]	**Testing Procedure: SMT**		
	Tested by (name + signature) ..... :	Thomas Weißbach	
	Approved by (+ signature) ..... :	Michaela Zielke	
	Supervised by (+ signature) ..... :	Paul Zawatson	
	Testing location / address..... :	PULS GMBH, Niederwaldstraße 3, D-09123 Chemnitz, Germany	
[ ]	**Testing Procedure: RMT**		
	Tested by (name + signature) ..... :		
	Approved by (+ signature) ..... :		
	Supervised by (+ signature) ..... :		
	Testing location / address..... :		

Summary of Testing: Unless otherwise indicated, all tests were conducted at PULS GMBH, Niederwaldstraße 3, D-09123 Chemnitz, Germany.	
Tests performed (name of test and test clause)	**Testing location / Comments**
Power Supply Reference Page	
Input: Single-Phase (1.6.2)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Electric Strength (5.2.2)	
Component Failure (5.3.1, 5.3.4, 5.3.6)	
Summary of Compliance with National Differences:	
AR, AT, BE, CA, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IT, NL, NO, PL, PT, SE, SI, SK, US	

Copy of Marking Plate



Test item particulars :	
Equipment mobility..... :	for building-in
Operating condition..... :	continuous
Mains supply tolerance (%)..... :	N/A
Tested for IT power systems..... :	No
IT testing, phase-phase voltage (V)..... :	N/A
Class of equipment..... :	SLR01 Class I, SLR02 , MLR02 and YR2.DIODE.XX are Class III
Mass of equipment (kg)..... :	< 1kg
Protection against ingress of water..... :	IP X0
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N / A
- test object does meet the requirement ..... :	P(Pass)
- test object does not meet the requirement ..... :	F(Fail)
Testing:	
Date(s) of receipt of test item ..... :	2007-03-19
Date(s) of Performance of tests ..... :	2007-03-20, 2007-03-21

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

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

Refer to the Cover Page For Test Report for a list of all Factory Locations.

GENERAL PRODUCT INFORMATION:

Report Summary

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

Product Description

The Model SLR01 is a Single Redundancy Module, the Models SLR 02, MLY02 and YR2.DIODE.XX are Dual Redundancy Modules. The redundancy modules are for interconnecting several identical power supply units in a redundant way. The modules decouple the power supply outputs from each other so that in case of failure one power supply cannot overload the other power supply output. The Single Redundancy Module has one power supply input. The Dual Redundancy Modules have two power supply inputs.

The units are for DIN Rail mounting. The redundancy modules are considered for building-in and therefore

not are connected directly to AC mains supply.

Model Differences

SLR01, SLR02, followed .50X or .51X. stands only for Customer identification. MLY02. followed 1xx or 5xx stands only for Customer identification. Model-Differences only Front-label and colour, x can be 0 up to 9.
MLR02 and MLY02 are identical except model name.
YR2M.DIODES.XX is identical to YR2.Diode.XX except additional DC ok signal.

Additional Information

N/A

Technical Considerations

During testing the units were supplied as follows: SLR01: Puls SL40.300. SLR02: Puls SL30.300 and MLR02: Puls SL10.101 or Puls Laboratory power supply.

The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) of: 60°C

Engineering Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

Contact rating for relays: SLR01 relay contacts rated 40V(DC), 1A resistive load or 230V(AC), 0.5A. SLR02 relay contacts rated 28V(DC), 1A resistive load or other SELV circuit voltage.

SLR01: Chassis Ground connector is not evaluated as safety ground connection.

The units provide no insulation. If the input is SELV, then the outputs can be considered SELV.

The following secondary output circuits are at hazardous energy levels: All outputs.

The power supply terminals and/or connectors are: Suitable for field wiring

The investigated Pollution Degree is: 2

The following end-product enclosures are required: Electrical, Fire

Model YRM2.DIODE: Input1 Alarm contact and Input 2 Alarm contact considered as SELV circuit, relay K1, K2 has no insulation between contact and coil.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950 or relevant component standard		Pass
1.5.2	Evaluation and testing of components		Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers		N/A
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors in primary circuits ..... :		N/A
1.5.7	Double insulation or reinforced insulation bridged by components		N/A
1.5.7.1	General		N/A
1.5.7.2	Bridging capacitors		N/A
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.6	**Power interface**		Pass
1.6.1	AC power distribution systems		N/A
1.6.2	Input current	Measurements taken for reference only.	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7	**Marking and instructions**		Pass
1.7.1	Power rating		N/A
	Rated voltage(s) or voltage range(s) (V) ..... :		N/A
	Symbol for nature of supply, for d.c. only ..... :		N/A
	Rated frequency or rated frequency range (Hz) .... :		N/A
	Rated current (mA or A) ..... :		N/A
	Manufacturer's name or trademark or identification mark ..... :	Puls	Pass
	Type/model or type reference ..... :	Refer to the Model information at the beginning of this Test Report.	Pass
	Symbol for Class II equipment only ..... :		N/A
	Other symbols ..... :		N/A
	Certification marks ..... :	UL Recognition Mark	Pass
1.7.2	Safety instructions		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment ..... :		N/A
1.7.5	Power outlets on the equipment ..... :		N/A
1.7.6	Fuse identification ..... :		N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals ..... :		N/A
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking ..... :		N/A
1.7.8.2	Colours ..... :		N/A
1.7.8.3	Symbols according to IEC 60417 ..... :		N/A
1.7.8.4	Markings using figures ..... :		N/A
1.7.9	Isolation of multiple power sources ..... :		N/A
1.7.10	IT power distribution systems		N/A
1.7.11	Thermostats and other regulating devices		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.12	Language..... :	Reviewed only English markings/instructions.	-
1.7.13	Durability		N/A
1.7.14	Removable parts		N/A
1.7.15	Replaceable batteries		N/A
	Language..... :		-
1.7.16	Operator access with a tool..... :		N/A
1.7.17	Equipment for restricted access locations..... :		N/A

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

2	**PROTECTION FROM HAZARDS**		Pass
2.1	Protection from electric shock and energy hazards		N/A
2.1.1	Protection in operator access areas	To be determined in the end product.	N/A
2.1.1.1	Access to energized parts		N/A
	Test by inspection..... :		N/A
	Test with test finger..... :		N/A
	Test with test pin..... :		N/A
	Test with test probe ..... :		N/A
2.1.1.2	Battery compartments..... :		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); minimum distance (mm) through insulation ..... :		-
2.1.1.4	Access to hazardous voltage circuit wiring	Unit is intended for building-in.	N/A
2.1.1.5	Energy hazards..... :	To be considered in the end product. In case of SLR01 it is possible to connect hazardous voltage to the relay contacts, it is possible to touch the connectors.	N/A
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Time-constant (s); measured voltage (V) ..... :		-
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

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

2.2	**SELV circuits**		N/A
2.2.1	General requirements	If the input circuits are SELV the output circuits are SELV too. If the input circuits are not SELV the output are not SELV.	N/A
2.2.2	Voltages under normal conditions (V) .....:		N/A
2.2.3	Voltages under fault conditions (V).....:		N/A
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	depends from input power supply	N/A
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits.....:		N/A

2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits .....:		-
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed.....:		-
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....:		-
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....:		-
2.3.5	Test for operating voltages generated externally		N/A

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

2.4	**Limited current circuits**		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) ..... :		-
	Measured current (mA)..... :		-
	Measured voltage (V) ..... :		-
	Measured capacitance (mF)..... :		-
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	**Limited power sources**		N/A
	Inherently limited output		N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		N/A
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA): ..... :		-
	Current rating of overcurrent protective device (A) :		-

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

2.6	**Provisions for earthing and bonding**		Pass
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm2), AWG ..... :		-
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm2), AWG ..... :		-
2.6.3.4	Resistance (Ohm) of earthing conductors and their terminations, test current (A) ..... :		N/A
2.6.3.5	Colour of insulation ..... :		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm) ..... :		-
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		Pass
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		Pass
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

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

2.7	**Overcurrent and earth fault protection in primary circuits**		N/A
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices..... :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel ..... :		N/A

2.8	**Safety interlocks**		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm) ..... :		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

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

2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials		Pass
2.9.2	Humidity conditioning	After Humidity conditioning for 48h, the electric strength test (according 5.2) was applied for one minute between the following points: input/output and relay connectors to enclosure U=500V(AC) for Models SLR01 and SLR02. Model MLR02 and YR2.DIODE.XX no test´s to be necessary.	Pass
	Humidity (%) .....:	95	-
	Temperature (°C).....:	24	-
2.9.3	Grade of insulation	Inputs of redundancy models are not isolated from outputs, Power supply for all models SLR01, SLR02 , MLR02 and YR2:DIODE.XX are SELV-circuit.	Pass

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

2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General		Pass
2.10.2	Determination of working voltage		N/A
2.10.3	Clearances		Pass
2.10.3.1	General		Pass
2.10.3.2	Clearances in primary circuit		Pass
2.10.3.3	Clearances in secondary circuits		N/A
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances		Pass
	CTI tests..... :	Category IIIa and IIIb	-
2.10.5	Solid insulation		N/A
2.10.5.1	Minimum distance through insulation		N/A
2.10.5.2	Thin sheet material		N/A
	Number of layers (pcs) ..... :		-
	Electric strength test ..... :		-
2.10.5.3	Printed boards		N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material ..... :		-
	Number of layers (pcs) ..... :		N/A
2.10.5.4	Wound components		N/A
	Number of layers (pcs) ..... :		N/A
	Two wires in contact inside wound component; angle between 45° and 90° ..... :		N/A
2.10.6	Coated printed boards		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C) ..... :		N/A
2.10.6.5	Electric strength test ..... :		-
2.10.6.6	Abrasion resistance test		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test ..... :		-
2.10.7	Enclosed and sealed parts ..... :		N/A
	Temperature T1=T2 = Tma - Tamb +10K (°C)..... :		N/A
2.10.8	Spacings filled by insulating compound..... :		N/A
	Electric strength test ..... :		-
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		N/A
3.1.2	Protection against mechanical damage		N/A
3.1.3	Securing of internal wiring		Pass
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.2	**Connection to an a.c. mains supply or a d.c. mains supply**		N/A
3.2.1	Means of connection		N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter (mm) of cable and conduits..... :		-
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords	Unit has no mains connection	N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		-
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) ..... :		-
	Longitudinal displacement (mm)..... :		-
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g) ..... :		-
	Radius of curvature of cord (mm) ..... :		-
3.2.9	Supply wiring space		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.3	**Wiring terminals for connection of external conductors**		N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) ..... :		-
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type and nominal thread diameter (mm) ..... :		-
3.3.6	Wiring terminals design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	**Disconnection from the mains supply**		N/A
3.4.1	General requirement		N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment and d.c. equipment		N/A
3.4.7	Three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.5	**Interconnection of equipment**		N/A
3.5.1	General requirements		N/A
3.5.2	Types of interconnection circuits ..... :		N/A
3.5.3	ELV circuits as interconnection circuits		N/A

4	**PHYSICAL REQUIREMENTS**		Pass
4.1	Stability		N/A
	Angle of 10°		N/A
	Test: force (N) ..... :		N/A

4.2	**Mechanical strength**		Pass
4.2.1	General		Pass
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified ..... :		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.3	**Design and construction**		Pass
4.3.1	Edges and corners		Pass
4.3.2	Handles and manual controls; force (N) ..... :	No handles/grips/knobs or levers provided in the equipment.	N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection of plugs and sockets		N/A
4.3.6	Direct plug-in equipment		N/A
	Dimensions (mm) of mains plug for direct plug-in . :		N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) ..... :		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids ..... :		N/A
	Quantity of liquid (l) ..... :		N/A
	Flash point (°C) ..... :		N/A
4.3.13	Radiation; type of radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) ..... :		-
	Measured high-voltage (kV) ..... :		-
	Measured focus voltage (kV) ..... :		-
	CRT markings ..... :		-
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification ..... :		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation..... :		N/A
4.3.13.5	Laser (including LEDs)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Laser class..... :		-
4.3.13.6	Other types ..... :		N/A
4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.5	**Thermal requirements**		Pass
4.5.1	Maximum temperatures		Pass
	Normal load condition per Annex L ..... :		N/A
4.5.2	Resistance to abnormal heat		N/A
4.6	**Openings in enclosures**		N/A
4.6.1	Top and side openings	Unit is intended for building-in.	N/A
	Dimensions (mm)..... :		-
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom..... :		-
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C)/time (weeks) ..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame		Pass
	Method 1, selection and application of components wiring and materials		Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		N/A
4.7.2.1	Parts requiring a fire enclosure		N/A
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General		Pass
4.7.3.2	Materials for fire enclosures		N/A
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		N/A
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	Touch current and protective conductor current		N/A
5.1.1	General		N/A
5.1.2	Equipment under test (EUT)		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Test voltage (V) ..... :		-
	Measured touch current (mA) ..... :		-
	Max. allowed touch current (mA) ..... :		-
	Measured protective conductor current (mA) ..... :		-
	Max. allowed protective conductor current (mA) ... :		-
5.1.7	Equipment with touch current exceeding 3.5 mA .. :		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		N/A
	Test voltage (V) ..... :		-
	Measured touch current (mA) ..... :		-
	Max. allowed touch current (mA) ..... :		-
5.1.8.2	Summation of touch currents from telecommunication networks ..... :		N/A

5.2	**Electric strength**		Pass
5.2.1	General		Pass
5.2.2	Test procedure		Pass

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation		Pass
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation ..... :	Method B	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults		Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions		Pass

6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Test voltage (V) ..... :		-
	Current in the test circuit (mA) ..... :		-
6.1.2.2	Exclusions ..... :		N/A

6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) ..... :		-
	Current limiting method..... :		-

7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.2	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.3	Insulation between primary circuits and cable distribution systems		N/A
7.3.1	General		N/A
7.3.2	Voltage surge test		N/A
7.3.3	Impulse test		N/A

A	**Annex A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples..... :		-
	Wall thickness (mm) ..... :		-
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples..... :		N/A
A.1.4	Test flame		N/A
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		-
	Sample 2 burning time (s)..... :		-
	Sample 3 burning time (s)..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

A.2	**Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)**		N/A
A.2.1	Samples, material ..... :		-
	Wall thickness (mm) ..... :		-
A.2.2	Conditioning of samples		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame		N/A
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		-
	Sample 2 burning time (s)..... :		-
	Sample 3 burning time (s)..... :		-
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s)..... :		-
	Sample 2 burning time (s)..... :		-
	Sample 3 burning time (s)..... :		-

A.3	**Hot flaming oil test (see 4.6.2)**		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict
C	**Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N/A
	Position ..... :		-
	Manufacturer ..... :		-
	Type ..... :		-
	Rated values ..... :		-
	Method of protection ..... :		-
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings ..... :		N/A
D	**Annex D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS**		N/A
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A
E	**Annex E, TEMPERATURE RISE OF A WINDING**		N/A
F	**Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)**		Pass

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G	**Annex G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	DC mains supply		N/A
G.3	Determination of telecommunication network transient voltage (V) :		N/A
G.4	Determination of required withstand voltage (V) ... :		N/A
G.5	Measurement of transient levels (V) :		N/A
G.6	Determination of minimum clearances :		N/A

H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A

J	**Annex J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		Pass
	Metal used :	Aluminum/Steel	-

K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) :		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V) :		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

L	**Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)**		N/A
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		N/A

M	**Annex M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		-
M.3.1.2	Voltage (V) ..... :		-
M.3.1.3	Cadence; time (s), voltage (V) ..... :		-
M.3.1.4	Single fault current (mA) ..... :		-
M.3.2	Tripping device and monitoring voltage ..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) ..... :		N/A

N	**Annex N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P	**Annex P, NORMATIVE REFERENCES**		N/A
Q	**Annex Q, BIBLIOGRAPHY**		N/A
R	**Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**Annex S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	**Annex T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
	..... :		-
U	**Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
	..... :		-

This is an extract of the CB-Scheme report with the most important information.
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