



Ref. Certif. No.

SI-1421

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

Buffer Unit (DIN Rail)

Name and address of the applicant
Nom et adresse du demandeur

PULS Elektronische Stromversorgungen GmbH
Arabellastraße 15, D-81925 München, Germany

Name and address of the manufacturer
Nom et adresse du fabricant

PULS Elektronische Stromversorgungen GmbH
Arabellastraße 15, D-81925 München, Germany

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

PULS EP KS
Alfonse Muchy 5473, 430 01 Chomutov, Czech Republic

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

See Annex to the Certificate

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

PULS

Model / Type Ref.
Ref. De type

See Annex to the Certificate

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

/

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

EDITION

IEC 60950-1:2001

1st

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

T223-0276/05

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



Slovenski institut za kakovost in meroslovje
Slovenian Institute of Quality and Metrology
Tržaška c. 2, SI-1000 Ljubljana, Slovenia

Date: 2005-12-07

Signature: Vojko Koron

Model / Type Ref.:

SLV20.X0W (X and W are numerical characters and stands for non safety relevant options like label colour)

UF20.XXZ-ZZ, where XX represents the output voltage and can be 24 (from 24 to 28.8V) or 48 (from 48 to 56V), Z are numerical characters and stands for non safety relevant options like label colour

RATINGS AND PRINCIPAL CHARACTERISTICS:

Input: 24 – 28,8 Vdc, Stand-by current: 80 mA, Charging current: < 600 mA or 48 – 56 Vdc, Stand-by current: 40 mA, Charging current: < 500 mA. Class II unit.

Output: 24 – 28,8 Vdc / 20 A / 200 msec or 48 – 56 Vdc / 20 A / 100 msec.

Ljubljana, 2005-12-07

Podpis pooblaščenih oseb / Authorized signature

Vojko Koron



TEST REPORT
IEC 60950-1 and/or EN 60950-1
Information technology equipment – Safety –
Part 1: General requirements

Report reference No: T223-0276/05

Tested by
 (printed name and signature): Boštjan Glavič

Approved by
 (printed name and signature): Mihal Kiselja

Date of issue: 2005-12-07

Testing Laboratory Name: Slovenian Institute of Quality and Metrology - SIQ

Address: Tržaška c. 2, SI-1000 Ljubljana, Slovenia

Testing location: CBTL CCATL SMT TMP

Address: Same as above

Applicant's Name: PULS Elektronische Stromversorgungen GmbH

Address: Arabellastraße 15, D-81925 München, Germany

Test specification

Standard: IEC 60950-1:2001 (1st Edition) and/or EN 60950-1:2001

Test procedure: CB/CCA –scheme

Non-standard test method: None

Test Report Form No.: IECEN60950_1B

TRF originator: SGS Fimko Ltd

Master TRF: dated 2003-03

Copyright © 2003 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Test item description: Buffer Unit (DIN Rail)

Trademark: PULS

Manufacturer: As above

Model and/or type reference: **SLV20.X0W** (X and W are numerical characters and stands for non safety relevant options like label color)

UF20.XXZ-ZZ, where XX represents the output voltage and can be 24 (from 24 to 28.8V) or 48 (from 48 to 56V), Z are numerical characters and stands for non safety relevant options like color

Serial number

Rating(s): Input: 24 – 28,8 Vdc, Stand-by current: 80 mA, Charging current: < 600 mA or 48 – 56 Vdc, Stand-by current: 40 mA, Charging current: < 500 mA. Class II unit.

Output: 24 – 28,8 Vdc / 20 A / 200 msec or 48 – 56 Vdc / 20 A / 100 msec.

Copy of marking plate

SLV 20.200
 DC Buffer Unit 24-28.8V / 20A

Charging mode:
 Input current: < 600mA
 Charging time: typ. 22s

Ready mode:
 Input current: typ. 80mA

Buffer mode:
 Output current: 0...20A
 Output voltage: 22.5V / V_{IN}-1V
 Back-up time: >200ms (typ. 310ms) at 20A
 longer at lower loads; max. 4s

Operational temp. range -10 ... +70°C
 Do not open, risk of electrical shock

Made in Czech Republic
 Label-Nr. 346.920.00X
 www.puls-power.com

UF20.241
 DC Buffer Unit 24-28.8V / 20A

Charging mode:
 Input current: < 600mA
 Charging time: typ. 18s

Ready mode:
 Input current: typ. 80mA

Buffer mode:
 Output current: 0...20A
 Output voltage: 22.5V / V_{IN}-1V
 Back-up time: >200ms (typ. 310ms) at 20A
 longer at lower loads

Operational temp. range -25 ... +70°C
 Do not open, risk of electrical shock

Made in Czech Republic
 www.puls-power.com
 Label-Nr. 366.920.00X

UF20.481
 DC Buffer Unit 48-56V / 20A

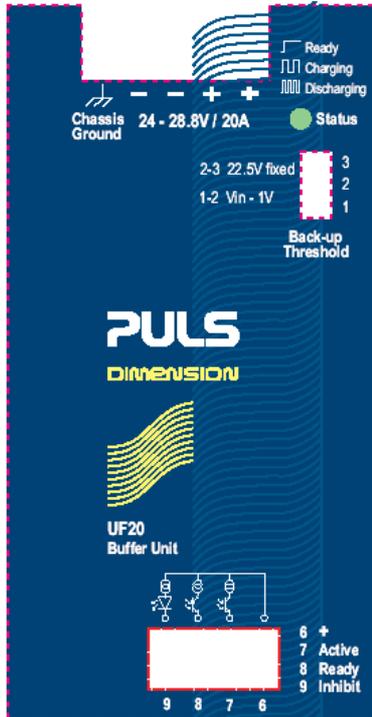
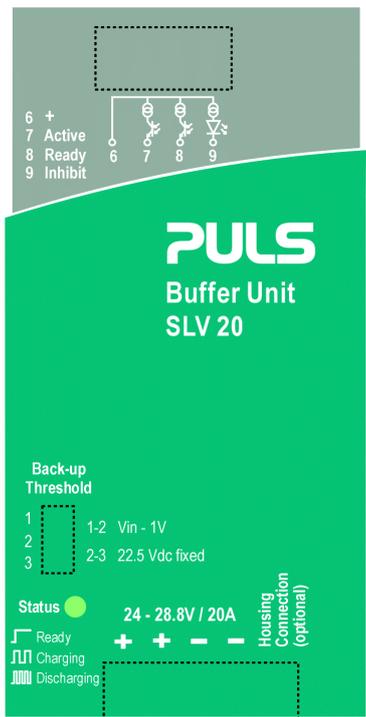
Charging mode:
 Input current: < 500mA
 Charging time: typ. 22s

Ready mode:
 Input current: typ. 40mA

Buffer mode:
 Output current: 0...20A
 Output voltage: 45V / V_{IN}-2V
 Back-up time: >100ms (typ. 150ms) at 20A
 longer at lower loads

Operational temp. range -25 ... +70°C
 Do not open, risk of electrical shock

Made in Czech Republic
 www.puls-power.com
 Label-Nr. 366.920.05X



Summary of testing:

1. The products were tested on a DC source with the current capability of 40 A.
2. The input and output is rated SELV, hazardous energy level.
3. The terminals and connectors are suitable for field wiring.
4. The unit generates internally voltage exceeding the limits of SELV. The unit is class II. The hazard internal voltage is separated from the enclosure by double insulation.
The metal enclosure of the unit can be connected to Protective Earth. The input of the unit is also allowed to be connected to Protective Earth.
5. The unit is intended for built in use. It is not required, that the unit will be earthed within the application.
6. The maximum working voltage present is 188 V rms; 192 V pk.
7. The equipment has been evaluated for use in a Pollution Degree 2 environment.
8. A suitable Electrical and Fire enclosure shall be provided.

Model UF20.24z is identical to SLV20.X0V with exception of the enclosure. Model UF20.48z is adjusted to 48V.

Particulars: test item vs. test requirements

Equipment mobility	Built in equipment, not intended for direct connection to mains.
Operating condition	Continuous stand-by mode and intermittent charging / hold-up time mode.
Mains supply tolerance (%)	22.5 Vdc – 30 Vdc (charging from 22,5 Vdc to 28 Vdc) 45 Vdc – 56 Vdc (charging from 45 Vdc to 56 Vdc)
Tested for IT power systems	N/A (DC unit)
IT testing, phase-phase voltage (V)	—
Class of equipment	Class II
Mass of equipment (kg).....	0,7 kg
Protection against ingress of water	IP20

Test case verdicts

Test case does not apply to the test object :	N/A
Test item does meet the requirement	P(ass)
Test item does not meet the requirement ..:	F(ail)

Testing

Date of receipt of test item	2005-11-15
Date(s) of performance of test	From 2005-11-18 to 2005-12-07

General remarks

"This report is not valid as a CB Test Report unless appended by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IEC 60950-1".

The test result presented in this report relate only to the object(s) 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 comma (point) is used as the decimal separator.

This Test Report consists of the following documents:

1. Test Report, 49 pages
2. National Differences – Enclosure No. 1, 18 pages
3. Additional Test Data – Enclosure No. 2, 4 pages
4. Pictures – Enclosure No. 3, 4 pages
5. Schematics, Layouts, Transformer data - Enclosure No. 4, 13 pages

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	No safety isolating transformer employed.	N/A
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors in primary circuits	No primary circuit.	N/A
1.5.7	Double insulation or reinforced insulation bridged by components	No such components bridging double or reinforced insulation.	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	DC unit, not intended for connection to IT mains.	N/A
1.6	Power interface		N/A
1.6.1	AC power distribution systems		N/A
1.6.2	Input current	(see appended table 1.6.2)	N/A
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment.	N/A
1.6.4	Neutral conductor	No Neutral is provided.	N/A
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V)	See type label.	P
	Symbol for nature of supply, for d.c. only	“DC” is used. This was acceptable for unit for building-in.	P
	Rated frequency or rated frequency range (Hz) ..		N/A
	Rated current (mA or A)	See type label.	P
	Manufacturer's name or trademark or identification mark	See type label.	P
	Type/model or type reference	See type label.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Symbol for Class II equipment only	The unit is for built in use. the function of the unit is to simulate a back-up battery for short interruptions.	N/A
	Other symbols		N/A
	Certification marks	See type label.	P
1.7.2	Safety instructions	See manual enclosed.	P
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	No fuse provided.	N/A
1.7.7	Wiring terminals	The terminals are properly marked, see photos enclosed.	P
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		P
1.7.8	Controls and indicators	A diffuse status LED is provided. This was not considered as an indicator relevant for safety.	N/A
1.7.8.1	Identification, location and marking	There are no controls affecting safety.	N/A
1.7.8.2	Colours	For functional indication a LED lights when the equipment is operating.	N/A
1.7.8.3	Symbols according to IEC 60417	There are no switches.	N/A
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources	Only one connection supplying hazardous voltages and energy levels to the equipment.	N/A
1.7.10	IT power distribution systems		N/A
1.7.11	Thermostats and other regulating devices	No thermostats or other regulating devices.	N/A
1.7.12	Language(s)	Instruction and marking shall be in a language acceptable for the country where the equipment is to be used.	—
1.7.13	Durability	Tested with water and petroleum spirit.	P
1.7.14	Removable parts	No removable parts.	N/A
1.7.15	Replaceable batteries	No battery in the equipment.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Language(s)		—
1.7.16	Operator access with a tool.....	No tool is necessary to gain access to an operator access area.	N/A
1.7.17	Equipment for restricted access locations	Equipment not intended for installation in RAL.	N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	This is a component level power supply not intended for operator access. Protection must be checked in the end product	N/A
2.1.1.1	Access to energized parts	This is a component level power supply not intended for operator access. Protection must be checked in the end product	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_{peak} or V_{rms}); minimum distance (mm) through insulation	(see appended table 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring	The internal parts and circuits containing hazard secondary energy are separated from the enclosure (not operator accessibly) by reinforced insulation. Therefore, the enclosure was treated within this report as dead metal.	N/A
2.1.1.5	Energy hazards	The output of the unit represents an energy hazard. (see Enclosure 2 for test results)	N/A
2.1.1.6	Manual controls	No shafts of knobs etc. at ELV or hazardous voltage.	N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Time-constant (s); measured voltage (V).....		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.1.2	Protection in service access areas	Checked by inspection, unintentional contact is unlikely during service operations.	P
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		P
2.2.1	General requirements	SELV limits (at accessible parts) are not exceeded under normal condition and after a single fault.	P
2.2.2	Voltages under normal conditions (V)..... :	Within SELV limits.	P
2.2.3	Voltages under fault conditions (V)..... :	Single fault conditions: < 60 Vdc. (see appended table 5.3).	P
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	There is distance between PWB traces and enclosure which could be connected to PE which meets double insulation. See appended table 2.10.3. There are also two diodes D200 and D201 connected between + and – pole of input/output. The diodes are voltage protection if internal voltage Vboost comes to input/output.	P
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..... :	The unit generates internally hazardous secondary voltage. Reliability testing was performed to make sure, that in case of one failure the output will remain SELV.	P
2.3	TNV circuits		N/A
2.4	Limited current circuits		N/A
2.5	Limited power sources		N/A
2.6	Provisions for earthing and bonding		N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.1	Protective earthing	The unit is rated SELV in and SELV out. The unit contains hazard internally secondary voltage. The hazard secondary voltage is separated from the enclosure by double insulation. The enclosure of the unit is allowed to be connected to PE.	N/A
2.7	Overcurrent and earth fault protection in primary circuits		N/A
2.7.1	Basic requirements	No primary circuit.	N/A
2.8	Safety interlocks		N/A
2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos nor hygroscopic materials are used as insulation. No driving belts or couplings used.	P
2.9.2	Humidity conditioning		P
	Humidity (%)	(see appended table 2.9.2 in Enclosure No. 2)	—
	Temperature (°C)	(see appended table 2.9.2 in Enclosure No. 2)	—
2.9.3	Grade of insulation	Insulation is considered to be functional, basic, supplementary, reinforced or double.	P
2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.2	Determination of working voltage		P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Clearances in primary circuits	No primary circuit.	N/A
2.10.3.3	Clearances in secondary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	P
	CTI tests	IIIb	—
2.10.5	Solid insulation		P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.5.1	Minimum distance through insulation	Insulation foil below PCB (basic insulation). (see appended table 2.10.5). This insulation meets the requirements for basic insulation.	P
2.10.5.2	Thin sheet material		N/A
	Number of layers (pcs)..... :		—
	Electric strength test	(see appended table 5.2)	—
2.10.5.3	Printed boards		N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material	(see appended table 5.2)	—
	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	(see appended table 5.2)	—
2.10.6.6	Abrasion resistance test		
	Electric strength test	(see appended table 5.2)	—
2.10.7	Enclosed and sealed parts		N/A
	Temperature $T_1=T_2 + T_{ma} - T_{amb} + 10K$ (°C)..... :		N/A
2.10.8	Spacings filled by insulating compound	Opto Couplers are approved according to IEC60950 reinforced insulation. See also list of safety critical components.	P
	Electric strength test	(see appended table 5.2)	—
2.10.9	Component external terminations		P
2.10.10	Insulation with varying dimensions		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		N/A
3.1.1	Current rating and overcurrent protection	No internal wiring.	N/A
3.1.2	Protection against mechanical damage	No internal wiring.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.1.3	Securing of internal wiring		N/A
3.1.4	Insulation of conductors	(see appended table 5.2)	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	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections.	N/A
3.1.9	Termination of conductors	Terminations cannot become displaced so that clearances and Creepage distances can not be reduced.	N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

3.2	Connection to an a.c. mains supply or a d.c. mains supply		P
3.2.1	Means of connection	Built in Power Supply with pillar type terminal. (see list of safety critical components).	P
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		P
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	No appliance inlet is used.	N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG.....		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage	No sharp points or cutting edges on the equipment surfaces.	P
3.2.8	Cord guards		N/A
	D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.9	Supply wiring space	Not permanently connected equipment or equipment with connection of ordinary non-detachable power supply cord.	N/A

3.3	Wiring terminals for connection of external conductors		P
3.3.1	Wiring terminals	Unit for building-in. Pillar type terminals are used for connection to DC mains.	P
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		P
	Rated current (A), cord/cable type, cross-sectional area (mm ²)	See list of critical components.	—
3.3.5	Wiring terminal sizes		P
	Rated current (A), type and nominal thread diameter (mm)	See list of critical components.	—
3.3.6	Wiring terminals design	Pillar type	P
3.3.7	Grouping of wiring terminals		P
3.3.8	Stranded wire	Only SELV connections therefore this test is not relevant.	N/A

3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	The unit is a built in Power Supply and does not provide a disconnect device. . Should be determined in the end product installation.	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

3.5	Interconnection of equipment		N/A
-----	------------------------------	--	-----

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.5.1	General requirements	Not interconnected equipment.	N/A
3.5.2	Types of interconnection circuits		N/A
3.5.3	ELV circuits as interconnection circuits		N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	unit for building-in (DIN Rail)	N/A
	Test: force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General		P
4.2.2	Steady force test, 10 N	Test on Components (see appended table 4.2.2 in Enclosure No. 2)	P
4.2.3	Steady force test, 30 N	No operator access part protected by a door or cover.	N/A
4.2.4	Steady force test, 250 N	No external enclosure.	N/A
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test	Drop test not applicable.	N/A
4.2.7	Stress relief test	No thermoplastic enclosure provided.	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)	Not intended to be mounted on a wall or ceiling.	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N)		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances over supplementary or reinforced insulation is likely to occur.	P
4.3.5	Connection of plugs and sockets		N/A
4.3.6	Direct plug-in equipment		N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	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	No heating elements provided.	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	No UV source inside the unit.	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)	Difuse LED only.	N/A
	Laser class		—
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No moving parts.	N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A

4.5	Thermal requirements		P
4.5.1	Maximum temperatures	(see appended table 4.5)	P
	Normal load condition per Annex L		N/A
4.5.2	Resistance to abnormal heat	No thermoplastic parts carrying hazardous voltages.	N/A

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

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings	The enclosure of this component is not rated as fire or electrical enclosure. For description of the enclosure refer to the list of safety critical components.	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).....		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	The unit uses appropriate and approved components.	N/A
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	(see appended table 5.3)	N/A
4.7.2	Conditions for a fire enclosure		N/A
	Fire enclosure must be considered for the end product.		
4.7.2.1	Parts requiring a fire enclosure		P
4.7.2.2	Parts not requiring a fire enclosure	The fire enclosure is required to cover all parts.	N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	Fire enclosure not provided.	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	PCB material is V-0 See enclosed list of safety critical component.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N/A
5.1.1	General	DC equipment.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
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		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation.....:	Complies with a) and c)	P
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	(see appended table 5.3)	P
5.3.7	Unattended equipment	No thermostats, temperature limiters or thermal cutouts.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire or molten metal occurred and no deformation of enclosure during the tests. No reduction of clearances and creepage distances.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
	Telecommunication requirements not applicable to the evaluated product.		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
	Requirements of this chapter not applicable to the evaluated product.		—

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

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4 and 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
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
	No motor. Requirements of this clause not applicable to the evaluated product.		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	No safety isolating transformer. Requirements of this clause not applicable to the evaluated product.		—
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		P
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

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal used	Aluminium, plated steel	—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		N/A
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		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
P	ANNEX P, NORMATIVE REFERENCES		P
Q	ANNEX Q, BIBLIOGRAPHY		P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		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
		See separate test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
		See separate test report	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A

CENELEC COMMON MODIFICATIONS [C], SPECIAL NATIONAL CONDITIONS [S] AND A-DEVIATIONS (NATIONAL DEVIATIONS) [A] (EN 60950-1:2001, Annex ZB and Annex ZC)			P
General	C: Delete all the "country" notes in the reference document according to the following list: 1.1.5 Note 2 1.5.8 Note 2 1.6.1 Note 1.7.2 Note 4 1.7.12 Note 2 2.6 Note 2.2.3 Note 2.2.4 Note 2.3.2 Note 2, 7, 8 2.3.3 Note 1, 2 2.3.4 Note 2,3 2.7.1 Note 2.10.3.1 Note 4 3.2.1.1 Note 3.2.3 Note 1, 2 3.2.5.1 Note 2 4.3.6 Note 1,2 4.7.2.2 Note 4.7.3.1 Note 2 6.1.2.1 Note 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7 Note 4 7.1 Note G2.1 Note 1, 2 Annex H Note 2		P
1.2.4.1	S (DK): Certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	DC SELV equipment.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.5.1	A (SE, Ordinance 1990:944 and CH, Ordinance on environmentally hazardous substances SR 814.013, Annex 3.2, Mercury): Add NOTE – Switches containing mercury such as thermostats, relays and level controllers are not allowed.	There are no components containing mercury in the equipment.	P
1.5.8	S (NO): Due to the IT power system used (see annex V, Fig. V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Unit not intended for connection to AC mains.	N/A
1.7.2	S (FI, NO, SE): CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:	Not pluggable equipment type A	N/A
	FI: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"		N/A
	NO: "Apparatet må tilkoples jordet stikkontakt"		N/A
	SE: "Apparaten skall anslutas till jordat uttag"		N/A
	A (DK, Heavy Current Regulations): Supply cords of class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		N/A
1.7.5	S (DK): Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For stationary equipment the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.	There are no socket-outlets providing power to other appliances.	N/A
1.7.5	A (DK, Heavy Current Regulations): CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	There are no socket-outlets providing power to other appliances.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.12	<p>A (DE, Gesetz über technische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23rd October 1992, Article 3, 3rd paragraph, 2nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheitsgesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10th January 1996, article 2, 4th paragraph item 2):</p> <p>Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language.</p> <p>NOTE: Of this requirement, rules for use even only by service personnel are not exempted.</p>	Manufacturer is responsible for providing Safety instructions in German language.	P
1.7.15	<p>A (CH, Ordinance on environmentally hazardous substances SR 814.013):</p> <p>Annex 4.10 of SR 814.013 applies for batteries.</p>	No batteries containing cadmium or mercury used in the equipment under evaluation.	P
	<p>A (DE, Regulation on protection against hazards by X-ray, of 8th January 1987, Article 5 [Operation of X-ray emission source], clauses 1 to 4):</p> <p>a) A licence is required by those who operate an X-ray emission source.</p> <p>b) A licence in accordance with Cl. 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if</p> <ol style="list-style-type: none"> 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that <ol style="list-style-type: none"> i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. <p>c) A licence in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if</p> <ol style="list-style-type: none"> 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that <ol style="list-style-type: none"> i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not 	Removed deviation. See A11 to EN 60950-1:2001.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>exceed the maximum value stipulated by the manufacturer or importer.</p> <p>d) Furthermore, a licence in accordance with Cl. 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if</p> <p>1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6,</p> <p>2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and</p> <p>3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.</p>		
2.2.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.	Not pluggable equipment type A.	N/A
2.3.2	S (NO): Requirements according to this annex, 6.1.2.1 apply.	Unit not intended for connection to TNV circuit.	N/A
2.3.3 and 2.3.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N/A
2.6.3.3	S (GB): The current rating of the circuit shall be taken as 13 A, not 16 A.	Not pluggable equipment type A.	N/A
2.7.1	<p>C: Replace the subclause as follows:</p> <p><i>Basic requirements</i></p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as</p>	No primary circuit.	N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	providing protection in accordance with the rating of the wall socket outlet.		
	S (GB): To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT OF DIRECT PLUG-IN EQUIPMENT, protective device shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT.	Not direct plug-in equipment.	N/A
2.7.2	C: Void.		N/A
2.10.2	C: Replace in the first line "(see also 1.4.7)" by "(see also 1.4.8)".		P
2.10.3.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage and will remain at 230 V in case of a single earth fault	SELV DC equipment.	N/A
3.2.1.1	<p>S (CH): Supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991, Plug type 15, 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991, Plug type 11, L+N 250 V, 10 A SEV 6534-2.1991, Plug type 12, L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998, Plug type 25, 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998, Plug type 21, L+N 250 V, 16 A SEV 5934-2.1998, Plug type 23, L+N+PE 250 V, 16 A</p>	No supply cord provided.	N/A
	<p>S (DK): Supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If ply-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>S (ES): Supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A
	<p>S (GB): Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 – The Plugs and Socket etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE – 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
	<p>S (IE): Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 – National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.</p>		N/A
3.2.3	C: Delete Note 1 and in Table 3A, delete the conduit sizes in parentheses.	Not permanently connected equipment.	N/A

IEC 60950-1 / EN 60950-1									
Clause	Requirement – Test	Result – Remark	Verdict						
3.2.5.1	<p>C: Replace</p> <p>"60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Up to and including 6</td> <td style="width: 40%; text-align: right;">0,75¹⁾</td> </tr> <tr> <td>Over 6 up to and including 10</td> <td style="text-align: right;">(0,75)²⁾ 1,0</td> </tr> <tr> <td>Over 10 up to and including 16</td> <td style="text-align: right;">(1,0)³⁾ 1,5</td> </tr> </table> <p>In the Conditions applicable to Table 3B delete the words "in some countries" in condition ¹⁾.</p> <p>In Note 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 ¹⁾	Over 6 up to and including 10	(0,75) ²⁾ 1,0	Over 10 up to and including 16	(1,0) ³⁾ 1,5	No cord provided.	N/A
Up to and including 6	0,75 ¹⁾								
Over 6 up to and including 10	(0,75) ²⁾ 1,0								
Over 10 up to and including 16	(1,0) ³⁾ 1,5								
3.2.5.1	S (GB): A power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Rated current <10A	N/A						
3.3.4	<p>C: In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <p>"Over 10 up to and including 16 1,5 to 2,5 1,5 to 4"</p> <p>Delete the fifth line: conductor sizes for 13 to 16 A.</p>		N/A						
3.3.4	S (GB): The range of conductor sizes of flexible cords to be accepted by terminals for equipment with A RATED CURRENT of over 10 A up to and including 13 A is: - 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.	Rated current <10A	N/A						
4.3.6	S (GB): The torque test is performed using a socket outlet complying with BS 1363 and the plug part OF DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C.	Not direct plug-in equipment.	N/A						
	S (IE): DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 – National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A						
4.3.13.6	<p>C: Add the following note:</p> <p>NOTE Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this recommendation are currently under development.</p>		N/A						
6.1.2.1	<p>S (FI, NO, SE): Add the following text between the first and second paragraph:</p> <p>If this insulation is solid, including insulation</p>	Unit not intended for connection to telecommunication network.	N/A						

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES AND CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.7 shall be performed using 1,5 kV), and - is subject to ROUTING TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950:2000, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400. 		
6.1.2.2	<p>S (FI, NO, SE): The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a service person.</p>		N/A

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
7.1	S (FI, NO, SE): Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	Unit not intended for connection to cable distribution system.	N/A
G.2.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.		N/A
Annex H	C: Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 μ Sv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete Note 2.	Unit does not produce ionizing radiation.	N/A
Annex P	C: Replace the text of this annex by: See annex ZA.		P
Annex Q	C: Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures – Probes for verification". Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized as EN 60127 (Series) (not modified) IEC 60269-2-1 NOTE Harmonized as HD 630.2.1 S4:2000 (modified) IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified) IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified) IEC 61140 NOTE Harmonized as EN 61140:2001 (not modified) ITU-T Recommendation K.31 NOTE in Europe, the suggested document is EN 50083-1.		P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
Annex ZA	<p>C: NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR RELEVANT EUROPEAN PUBLICATIONS</p> <p>This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).</p> <p>NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.</p>		P
	—	IEC 60050-151	
	—	IEC 60050-195	
	EN 60065:1998 + corr. June 1999	IEC 60065 (mod):1998	
	EN 60073:1996	IEC 60073:1996	
	HD 566 S1:1990	IEC 60085:1984	
	HD 214 S2:1980	IEC 60112:1979	
	HD 611.4.1.S1:1992	IEC 60216-4-1:1990	
	HD 21 ¹⁾ Series	IEC 60227 (mod) Series	
	HD 22 ²⁾ Series	IEC 60245 (mod) Series	
	EN 60309 Series	IEC 60309 Series	
	EN 60317-43:1997	IEC 60317-43:1997	
	EN 60320 Series	IEC 60320 (mod) Series	
	HD 384.3 S2:1995	IEC 60364-3 (mod):1993	
	HD 384.4.41 S2:1996	IEC 60364-4-41 (mod):1992 ³⁾	
	EN 132400:1994 ⁴⁾	IEC 60384-14:1993	
	+ A2:1998 + A3:1998 + A4:2001		
	EN 60417-1	IEC 60417-1	
	HD 625.1 S1:1996 + corr. Nov. 1996	IEC 60664-1 (mod):1992	
	EN 60695-2-2:1994	IEC 60695-2-2:1991	
	EN 60695-2-11:2001	IEC 60695-2-11:2000	
	—	IEC 60695-2-20:1995	
	—	IEC 60695-10-2:1995	
	—	IEC 60695-11-3:2000	
	—	IEC 60695-11-4:2000	
	EN 60695-11-10:1999	IEC 60695-11-10:1999	
	EN 60695-11-20:1999	IEC 60695-11-20:1999	
	EN 60730-1:2000	IEC 60730-1:1999 (mod)	
	EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997	IEC 60825-1:1993	
	EN 60825-2:2000	IEC 60825-2:2000	
	—	IEC 60825-9:1999	
	EN 60851-3:1996	IEC 60851-3:1996	
	EN 60851-5:1996	IEC 60825-5:1996	
	EN 60851-6:1996	IEC 60851-6:1996	
	—	IEC 60885-1:1987	
	EN 60990:1999	IEC 60990:1999	
	—	IEC 61058-1:2000	
	EN 61965:2001	IEC 61965:2000	
	EN ISO 178:1996	ISO 178:1993	
	EN ISO 179 Series	ISO 179 Series	
	EN ISO 180:2000	ISO 180:1993	
	—	ISO 261:1998	
	—	ISO 262:1998	
	EN ISO 527 Series	ISO 527 Series	

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	—	ISO 386:1984	
	EN ISO 4892 Series	ISO 4892 Series	
	—	ISO 7000:1989	
	EN ISO 8256:1996	ISO 8256:1990	
	—	ISO 9772:1994	
	EN ISO 9773:1998	ISO 9773:1998	
	—	ITU-T:1988 Recommendation K.17	
	—	ITU-T:2000 Recommendation K.21	
	1) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series 2) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series 3) IEC 60364-4-41:1992 is superseded by IEC 60364-4-41:2001 4) EN 132400, Sectional Specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (Assessment level D), and its amendments are related to, but not directly equivalent to IEC 60384-14		

*This is an extract of the CB-Scheme report with the most important information.
If a complete copy of the report is required, please contact your PULS sales representative.*