



Accredited testing laboratory



DAR-Registrierungsnummer :
DGA-PL-176/94-D1

<p>TEST REPORT</p> <p>IEC 60950-1: 2005 (2nd Edition) and EN 60950-1: 2006 + A11:2009</p> <p>Information technology equipment – Safety –</p> <p>Part 1: General requirements</p>	
Report Reference No.	1-2434-01-02/10
Test Item	TA + POX TA + HUX TA + HIX TA + SOC
Test result	The test item passed!
Tested by (printed name and signature)	Jürgen Sanetra 
Approved by (printed name and signature)	Gerhard Rech 
Date of issue	28.07.2010
Testing Laboratory	CETECOM ICT Services GmbH
Address	Untertürkheimerstr. 6-10 D-66117 Saarbrücken
Applicant's name	Stollmann E + V GmbH
Address	Mendelssohnstraße 15 D D-22761 Hamburg
Manufacturer's name	Same as applicant
Address	
Test specification:	
Standard	<input checked="" type="checkbox"/> IEC 60950-1:2005 (2. Edition) and <input checked="" type="checkbox"/> EN 60950-1: 2006 + A11:2009
Test procedure	CE, AA WC 34
Non-standard test method	N/A
Test Report Form No.	IECEN60950_1C
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2007-01

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Test item description : ISDN-Terminal adapter and modules

Trade Mark..... :



Manufacturer : Same as applicant

Model/Type reference : TA + POX
 TA + HUX
 TA + HIX
 TA + SOC

Ratings : 5VDC max. 110mA

Additional information:

The EUT was tested under the following conditions:

- Temperature in the range of 20 – 30 °C
- A relevant humidity in the range of 35-75% r.H.
- An air pressure in range of 86kPa to 106kPa

Summary of testing:

The sample(s) tested complies with the requirements of IEC 60950-1:2005 (2. Edition) and EN 60950-1: 2006 + A11:2009. Compliance with National Differences, Special National Conditions, Annex ZB, and A – Deviations, Annex ZC are recorded at the end of this report.

The modules TA + HUX, TA + HIX and TA + SOC must also be tested in the final application to fulfill the requirements of the clauses 4.7 and 5.3!

Summary of compliance with National Differences:

The following group and/or national deviations were considered: AT, BE, CH, CS, CZ, DE, DK, ES, FI, FR, GB, GR, HU, IE, IT, NL, NO, PL, PT, RU, SE, SI, SK, TR, UA

The following abbreviations were used in this test report:

AC: Alternating Current	DC: Direct Current	PE: Protective earth
PRI: Primary circuit	SEC: Secondary circuit	PS: Power Supply
GND: Ground	PCB: Printed circuit board	BAT: Battery
EUT: Equipment under Test	OC: Open Circuit	SC: Short Circuit
TA: Terminal Adapter		

Country abbreviations according to ISO 3166-1:

AR	Argentina	AT	Austria	AU	Australia
BE	Belgium	BR	Brazil	CA	Canada
CH	Switzerland	CN	China	RS	Serbia
CZ	The Czech Republic	DE	Germany	DK	Denmark
ES	Spain	FI	Finland	FR	France
GB	United Kingdom	GR	Greece	HU	Hungary
IE	Ireland	IL	Israel	IT	Italy
IN	India	JP	Japan	KR	Rep. of Korea
MY	Malaysia	NL	Netherlands	NO	Norway
NZ	New Zealand	PL	Poland	PT	Portugal
RU	Russian federation	SE	Sweden	SG	Singapore
SK	Slovakia	SI	Slovenia	TR	Turkey
UA	Ukraine	AE	United Arab Emirates	US	United States of America
ZA	South Africa				

Copy of marking plate:



Test item particulars	ISDN-Terminal adapters and modules	
Equipment mobility	TA + POX:	Movable
	TA + HUX:	Building-in
	TA + HIX:	Building-in
	TA + SOC:	Building-in
Connection to the mains	TA: DC powered equipment	
	PS: Type A	
Operating condition	continuous	
Over voltage category (OVC)	TA: 1.5kV	
	PS: II	
Mains supply tolerance (%)	PS: -10%, + 6%	
Tested for IT power systems	Yes (Norway only!)	
IT testing, phase-phase voltage (V)	230	
Class of equipment	TA: III	
	PS: II	
Pollution degree (PD)	2	
Rated atmospheric humidity.....	20 to 85%	
Rated temperature range	-10°C to +45°C	
Accessibility	User access area	
Enclosure material	Metal, plastic HB	
PCB material	V-0	
IP protection class	X0	
Mass of equipment (kg)	TA + POX incl. enclosure: 125g	
	TA + HUX:	18g
	TA + HIX:	18g
	TA + SOC:	12g
Altitude during operation (m)	≤ 2000	
Safety classification of interfaces	5VDC:	SELV
	S0:	TNV-1
	RS232:	SELV
	TNV-1 – Metal enclosure:	Basic (TA + POX only)
Insulation	SELV – TNV-1:	Basic
	TNV-1 – Metal enclosure:	Basic (TA + POX only)
	SELV – SELV:	Function
Possible test case verdicts:		
- test case does not apply to the test object.....	N/A	
- test object does meet the requirement	P (Pass)	
- test object does not meet the requirement	F (Fail)	
Testing		
Date of receipt of test item	27.07.2010	
Date(s) of performance of tests	27.07 – 28.07.2010	

General remarks:

The test results presented in this report relate only to the object tested.

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"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.

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

General product information:

The EUT's are ISDN terminal adapters and modules.

The power supply has been evaluated according to EN 60950-1: 2006 + A11:2009.

The power supply meets the requirement of SELV and limited power sources.

The following Attachments are integral part of this test report:

- Annex 1: Photo documentation

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.3.Z1	Exposure to excessive sound pressure		N/A
1.5	Components		P
1.5.1	General	See appended table 1.5.1	P
	Comply with IEC 60950 or relevant component standard		P
1.5.2	Evaluation and testing of components		P
1.5.3	Thermal controls	No thermal controls	N/A
1.5.4	Transformers	Transformers are already approved. See appended table 1.5.1	P
1.5.5	Interconnecting cables		P
1.5.6	Capacitors bridging insulation	No capacitors bridging insulation	N/A
1.5.7	Resistors bridging insulation	No resistors bridging insulation	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between AC mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between AC mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	PS is already approved.	N/A
1.5.9	Surge suppressors	PS: No surge suppressors	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P
1.6.1	AC power distribution systems	TN, IT (Norway only!)	P
1.6.2	Input current	See appended table 1.6.2	P
1.6.3	Voltage limit of hand-held equipment	No hand-held equipment	N/A
1.6.4	Neutral conductor	PS is already approved	N/A
1.7	Marking and instructions		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.1	Power rating	See copy of marking plate	P
	Rated voltage(s) or voltage range(s) (V) :	PS	P
	Symbol for nature of supply, for DC only :		N/A
	Rated frequency or rated frequency range (Hz) . :	PS	P
	Rated current (mA or A) :	PS	P
	Manufacturer's name or trade-mark or identification mark :	PS, TA	P
	Model identification or type reference :	PS, TA	P
	Symbol for Class II equipment only :	PS	P
	Other markings and symbols :	CE, ,	P
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices		P
1.7.2.3	Overcurrent protective device	PS is already approved	N/A
1.7.2.4	IT power distribution systems	PS	P
1.7.2.5	Operator access with a tool	No operator access with a tool	N/A
1.7.2.6	Ozone	No ozone	N/A
1.7.3	Short duty cycles	Continuous operation	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 :		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) :	No fuse	N/A
1.7.7	Wiring terminals	No wiring terminals	N/A
1.7.7.1	Protective earthing and bonding terminals :	No earthing and bonding	N/A
1.7.7.2	Terminals for AC mains supply conductors		N/A
1.7.7.3	Terminals for DC mains supply conductors	No DC mains	N/A
1.7.8	Controls and indicators	Not safety relevant	N/A
1.7.8.1	Identification, location and marking :		N/A
1.7.8.2	Colours :	Not safety relevant	N/A
1.7.8.3	Symbols according to IEC 60417..... :		P
	for "ON" (60417-1-IEC-5007)		N/A
	○ for "OFF" (60417-1-IEC-5008)		N/A
	⓪ push-push (60417-1-IEC-5010)		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	stand-by (60417-1-IEC-5009)		N/A
	(ISO 3864, No. 5036)		N/A
	(ISO 7000-0434)		N/A
	(direct current, IEC 60417, 417-IEC-5031-a)	PS	P
	(single phase, IEC 60417, 417-IEC-5032-a) (230V \sim): Power indication		N/A
	3 (three phase IEC 60417, 417-IEC-5032-a)		N/A
	3N (three phase with neutral, IEC 60417, 417-IEC-5032-a)		N/A
	(Class II equipment, IEC 60417, 417-IEC-5172-a): On the bottom	PS	P
	(protection, IEC 60417, 417-IEC-5016-a)		N/A
	(connector, holder or core, IEC 60417, 417-IEC-5020-a)		N/A
	(protective earth, IEC 60417, 417-IEC-5019-a)		N/A
	(insulation transformers, IEC 60417, 417-IEC-5221)		N/A
	Short circuit protected transformer IEC 60417, 417-IEC-5220-a		N/A
	Indoor use only, IEC 60417, 417-IEC-5957		P
	Hot surface. IEC 60417-1-5041		N/A
1.7.8.4	Markings using figures		P
1.7.9	Isolation of multiple power sources	One power source only	N/A
1.7.10	Thermostats and other regulating devices	No thermostats and other regulating devices	N/A
1.7.11	Durability		P
1.7.12	Removable parts		P
1.7.13	Replaceable batteries	No battery	N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	EUT is for user access area	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		P
2.1.1.1	Access to energized parts	No energized parts	P

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

	Test by inspection		P
	Test with test finger (Figure 2A)		P
	Test with test pin (Figure 2B)	No hazardous voltages	N/A
	Test with test probe (Figure 2C)	TNV	P
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No ELV circuits	N/A
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No access	N/A
2.1.1.5	Energy hazards	No energy hazards	N/A
2.1.1.6	Manual controls	No manual controls	N/A
2.1.1.7	Discharge of capacitors in equipment	PS is already approved	N/A
	Measured voltage (V); time-constant (s).....		—
2.1.1.8	Energy hazards – DC mains supply	No DC mains	N/A
	a) Capacitor connected to the DC mains supply :		N/A
	b) Internal battery connected to the DC mains supply		N/A
2.1.1.9	Audio amplifiers	No audio amplifier	N/A
2.1.2	Protection in service access areas	SELV and TNV circuits only	P
2.1.3	Protection in restricted access locations	EUT is not for restricted access locations	N/A

2.2	SELV circuits		P
2.2.1	General requirements		P
2.2.2	Voltages under normal conditions (V)	Within SELV limits	P
2.2.3	Voltages under fault conditions (V)	Within SELV limits	P
2.2.4	Connection of SELV circuits to other circuits	SELV to SELV	P

2.3	TNV circuits		P
2.3.1	Limits		P
	Type of TNV circuits.....	TNV-1	—
2.3.2	Separation from other circuits and from accessible parts	Basic insulation	P
2.3.2.1	General requirements		P
2.3.2.2	Protection by basic insulation		P
2.3.2.3	Protection by earthing	No earthing	N/A
2.3.2.4	Protection by other constructions	No other constructions	N/A

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

2.3.3	Separation from hazardous voltages	With approved PS	P
	Insulation employed	Double insulation	—
2.3.4	Connection of TNV circuits to other circuits	TNV to TNV	P
	Insulation employed		—
2.3.5	Test for operating voltages generated externally	See appended table 2.3.5	P

2.4	Limited current circuits	No 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 circuit capacitance (nF or µF)		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources	See appended table 2.5/3.5.4	P
	a) Inherently limited output		P
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)		—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding	No earthing and bonding	N/A
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 (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG :		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)..... :		N/A
2.6.3.5	Color 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, 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		N/A
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		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	Overcurrent and earth fault protection in primary circuits	Part of the approved power supply	N/A
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		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	No safety interlocks	N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A

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

2.9	Electrical insulation		
2.9.1	Properties of insulating materials	Neither natural rubber, materials containing asbestos no hygroscopic material are used as insulation	P
2.9.2	Humidity conditioning	See appended table 2.9.2	
2.9.3	Grade of insulation	Power supply: PRI - SEC double insulation TNV-1 - SELV: Basic insulation	P
2.9.4	Separation from hazardous voltages	PS is already approved	N/A
	Method(s) used :		—

2.10	Clearances, creepage distances and distances through insulation	See appended table 2.10.3 /4	P
2.10.1	General		P
2.10.1.1	Frequency :		P
2.10.1.2	Pollution degrees :	2	P
2.10.1.3	Reduced values for functional insulation	For functional insulation creepage distances and clearances smaller than those specified in clause 2.10 are permitted subject to the requirements of clause 5.3.4 c)	
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See appended table 2.10.2	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.1	General		P
2.10.2.2	RMS working voltage	120V	P
2.10.2.3	Peak working voltage	120V	P
2.10.3	Clearances	See appended table 2.10.3/4	P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages	PS is already approved	N/A
	a) AC mains supply		N/A
	b) Earthed DC mains supplies		N/A
	c) Unearthed DC mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits		P
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from AC mains supply		N/A
2.10.3.7	Transients from DC mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	1.5kV	P
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an AC mains supply		N/A
	For a DC mains supply		N/A
	b) Transients from a telecommunication network.. :		N/A
2.10.4	Creepage distances	See appended table 2.10.3/4	P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index	IIIa, b	N/A
	CTI tests.....		—
2.10.4.3	Minimum creepage distances		P
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components	Transformers are already approved. See appended table 1.5.1	N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	WIRING, CONNECTIONS AND SUPPLY	PS is already approved	N/A
3.1	General		N/A
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		N/A
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
3.2	Connection to a mains supply	PS is already approved	N/A
3.2.1	Means of connection		N/A
3.2.1.1	Connection to an AC mains supply		N/A
3.2.1.2	Connection to a DC mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		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

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Clause	Requirement + Test	Result - Remark	Verdict

3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) :		—
	Longitudinal displacement (mm) :		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) :		—
	Radius of curvature of cord (mm) :		—
3.2.9	Supply wiring space		N/A

3.3	Wiring terminals for connection of external conductors	No mains terminals	N/A
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²) :		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) :		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices	Plug-in power supply	P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and DC equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.5	Interconnection of equipment		P
3.5.1	General requirements		P
3.5.2	Types of interconnection circuits	SELV to SELV TNV to TNV	P
3.5.3	ELV circuits as interconnection circuits	No ELV circuits	N/A
3.5.4	Data ports for additional equipment	RS 232 only	N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	EUT is stable	P
	Test force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General		P
4.2.2	Steady force test, 10 N	Internal components	P
4.2.3	Steady force test, 30 N	Cover	P
4.2.4	Steady force test, 250 N	Enclosure	P
4.2.5	Impact test	SELV circuits only	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	750	P
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes	No cathode ray tubes	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	No wall or ceiling mounted equipment	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	No sharp edges and corners	P
4.3.2	Handles and manual controls; force (N)	No handles and manual controls	N/A
4.3.3	Adjustable controls	No adjustable controls	N/A
4.3.4	Securing of parts	All parts secured	P
4.3.5	Connection by plugs and sockets	IEC 60083 and IEC 60320 connectors not in SELV- or TNV-Circuits	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.6	Direct plug-in equipment	See appended table 4.3.6	P
	Compliance with the relevant mains plug standard :	EN 50075	P
4.3.7	Heating elements in earthed equipment	No heating elements	N/A
4.3.8	Batteries	No battery	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No exposure to oil or grease	N/A
4.3.10	Dust, powders, liquids and gases	No exposure to dust, powders, liquids and gases	N/A
4.3.11	Containers for liquids or gases	No containers for liquids or gases	N/A
4.3.12	Flammable liquids	No flammable liquids	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	No radiations	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)	LED's for indication only	N/A
	Laser class		—
4.3.13.6	Other types		N/A
4.4	Protection against hazardous moving parts	No 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

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Clause	Requirement + Test	Result - Remark	Verdict

4.5	Thermal requirements	See appended table 4.5	P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L :		—
4.5.3	Temperature limits for materials		P
4.5.4	Touch temperature limits		P
4.5.5	Resistance to abnormal heat :	PS is already approved	N/A

4.6	Openings in enclosures		P
4.6.1	Top and side openings		P
	Dimensions (mm) :	No openings	—
4.6.2	Bottoms of fire enclosures	No fire enclosure	N/A
	Construction of the bottom, dimensions (mm) :		—
4.6.3	Doors or covers in fire enclosures	No fire enclosure	N/A
4.6.4	Openings in transportable equipment	No transportable equipment	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metalized parts		N/A
4.6.5	Adhesives for constructional purposes	No 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		P
	Method 1, selection and application of components wiring and materials	See appended table 1.5.1	N/A
	Method 2, application of all of simulated fault condition tests	See appended table 5.3	P
4.7.2	Conditions for a fire enclosure	No 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	Components in SEC circuits supplied by limited power sources complying with 2.5 and mounted on V-1 class material. A fire enclosure is not required!	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	Materials	See appended table 1.5.1 and 4.7.3.1	P
4.7.3.1	General	See appended table 4.7.3.1	P
4.7.3.2	Materials for fire enclosures	No fire enclosure	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	No air filter assemblies	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components	N/A
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current	See appended table 5.1	P
5.1.1	General		P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an AC mains supply		P
5.1.2.2	Redundant multiple connections to an AC mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an AC mains supply		N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument	D.1	P
5.1.5	Test procedure	Class II	P
5.1.6	Test measurements		P
	Supply 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
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth	S0	N/A
5.2	Electric strength	See appended table 5.2	P
5.2.1	General		P
5.2.2	Test procedure		P
5.3	Abnormal operating and fault conditions	See appended table 5.3	P
5.3.1	Protection against overload and abnormal operation		P
5.3.2	Motors	No motor	N/A
5.3.3	Transformers	See appended table Annex C	P
5.3.4	Functional insulation	Can be short circuit	P
5.3.5	Electromechanical components	No electromechanical components	N/A
5.3.6	Audio amplifiers in ITE	No audio amplifier	N/A
5.3.7	Simulation of faults		P
5.3.8	Unattended equipment	Not such equipment	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests	TNV - SELV	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		P
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment	See appended table 5.2	P
6.1.1	Protection from hazardous voltages	PS: Double insulation	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2	Separation of the telecommunication network from earth	No earth	N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V) :		—
	Current in the test circuit (mA) :		—
6.1.2.2	Exclusions :		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks	See appended table 5.2	P
6.2.1	Separation requirements		P
6.2.2	Electric strength test procedure		P
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		P
6.2.2.3	Compliance criteria		P
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	No connection to cable distribution systems	N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements		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 DC motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for DC motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position		—
	Manufacturer		—
	Type		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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 (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		N/A
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed DC mains supplies		N/A
G.2.3	Unearthed DC mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For an AC mains supply		N/A
	For a DC mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used		N/A
K	Annex K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		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

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz) :		—
M.3.1.2	Voltage (V) :		—
M.3.1.3	Cadence; time (s), voltage (V) :		—
M.3.1.4	Single fault current (mA) :		—
M.3.2	Tripping device and monitoring voltage :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) :		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	a) Preferred climatic categories :		N/A
	b) Maximum continuous voltage :		N/A
	c) Pulse current :		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
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BB	ANNEX BB, CHANGES IN THE SECOND EDITION		N/A
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EN 60950-1/A11:2009 – CENELEC COMMON MODIFICATIONS			
Contents	Add the following annexes:		P
	Annex ZA	(normative) Normative references to international publications with their corresponding European publications	
	Annex ZB	(normative) Special national conditions	
	Annex ZC	(informative) A-deviations	
General	Delete all the “country” notes in the reference document according to the following list:		P
	1.4.8	Note 2	1.5.1 Note 2 & 3
	1.5.8	Note 2	1.5.9.4 Note
	2.2.3	Note	1.5.7.1 Note
	2.3.2.1	Note 2	1.7.2.1 Note 4, 5 & 6
	2.7.1	Note	2.2.4 Note
	3.2.1.1	Note	2.3.2 Note
	4.3.6	Note 1 & 2	2.3.2.1 Note 2
	4.7.3.1	Note 2	2.3.4 Note 2
	6	Note 2 & 5	2.6.3.3 Note 2 & 3
	6.2.2	Note 6.	2.7.1 Note
	7.1	Note 3	2.10.3.2 Note 2
	G.2.1	Note 2	2.10.5.13 Note 3
			2.5.1 Note 2
			3.2.4 Note 3.
			2.7.1 Note
			3.2.1.1 Note
			4.3.6 Note 1 & 2
			4.7 Note 4
			4.7.2.2 Note
			4.7.3.1 Note 2
			5.1.7.1 Note 3 & 4
			5.3.7 Note 1
			6 Note 2 & 5
			6.1.2.1 Note 2
			6.1.2.2 Note
			6.2.2 Note 6.
			2.2.1 Note 2
			6.2.2.2 Note
			7.1 Note 3
			7.2 Note
			7.3 Note 1 & 2
			G.2.1 Note 2
			Annex H Note 2
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		N/A

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1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss	N/A												
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	N/A												
2.7.2	This subclause has been declared 'void'.	P												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	N/A												
3.2.5.1	Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: <table border="1" style="margin-left: 20px;"> <tr> <td>Up to and including 6</td> <td></td> <td>0,75^{a)}</td> <td></td> </tr> <tr> <td>Over 6 up to and including 10</td> <td>(0,75)^{b)}</td> <td>1,0</td> <td></td> </tr> <tr> <td>Over 10 up to and including 16</td> <td>(1,0)^{c)}</td> <td>1,5</td> <td></td> </tr> </table> In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)} . In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5		N/A
Up to and including 6		0,75 ^{a)}												
Over 6 up to and including 10	(0,75) ^{b)}	1,0												
Over 10 up to and including 16	(1,0) ^{c)}	1,5												
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: <table border="1" style="margin-left: 20px;"> <tr> <td>Over 10 up to and including 16</td> <td>1,5 to 2,5</td> <td>1,5 to 4</td> </tr> </table> Delete the fifth line: conductor sizes for 13 to 16 A.	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4	N/A									
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4												
4.3.13.6	Add the following NOTE: NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	N/A												

EN 60950-1/A11:2009 – CENELEC COMMON MODIFICATIONS		
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 $\mu\text{Sv/h}$ (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>	N/A
Bibliography	Additional EN standards.	—

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB	SPECIAL NATIONAL CONDITIONS	
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex	N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	P
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	N/A
1.7.2.1	<p>In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).”</p> <p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p>	N/A

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	<p>Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplede utstyr – og er tilkoplede et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet."</p> <p>Translation to Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."</p>	
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"</p>	N/A
1.7.5	<p>In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	N/A
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation; see 6.1.2.1 and 6.1.2.2 of this annex.	N/A

EN 60950-1/A11:2009 – CENELEC COMMON MODIFICATIONS																										
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <table border="0"> <tr> <td>SEV 6532-2.1991</td> <td>Plug Type 15</td> <td>3P+N+PE</td> <td>250/400 V, 10 A</td> </tr> <tr> <td>SEV 6533-2.1991</td> <td>Plug Type 11</td> <td>L+N</td> <td>250 V, 10 A</td> </tr> <tr> <td>SEV 6534-2.1991</td> <td>Plug Type 12</td> <td>L+N+PE</td> <td>250 V, 10 A</td> </tr> </table> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <table border="0"> <tr> <td>SEV 5932-2.1998</td> <td>Plug Type 25</td> <td>3L+N+PE</td> <td>230/400 V, 16 A</td> </tr> <tr> <td>SEV 5933-2.1998</td> <td>Plug Type 21</td> <td>L+N</td> <td>250 V, 16 A</td> </tr> <tr> <td>SEV 5934-2.1998</td> <td>Plug Type 23</td> <td>L+N+PE</td> <td>250 V, 16 A</td> </tr> </table>	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	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	N/A
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																							
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																							
3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>	N/A																								
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>	P																								
3.2.1.1	<p>In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	N/A																								
3.2.1.1	<p>In Ireland, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.</p>	N/A																								
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	N/A																								
3.2.5.1	In the United Kingdom , 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.	N/A																								

EN 60950-1/A11:2009 – CENELEC COMMON MODIFICATIONS		
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: <ul style="list-style-type: none"> • 1,25 mm² to 1,5 mm² nominal cross-sectional area. 	N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: <ul style="list-style-type: none"> • STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> ○ is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and ○ has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and ○ is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT. 	N/A

EN 60950-1/A11:2009 – CENELEC COMMON MODIFICATIONS		
6.1.2.1	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. <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 60950-1:2006, 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. 	N/A
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>	N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	N/A
7.3	<p>In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>	N/A

ZC	A-DEVIATIONS (informative)
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EN 60950-1/A11:2009 – CENELEC COMMON MODIFICATIONS		
1.5.1	<p>Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.)</p> <p>Add the following:</p> <p>NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.</p>	N/A
1.7.2.1	<p>Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2).</p> <p>If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market.</p> <p>Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.</p>	P
1.7.13	<p>Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries)</p> <p>Annex 2.15 of SR 814.81 applies for batteries.</p>	N/A

1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
Power supply (TA-BOX only)	Fujikon International	SAW03-05.0- 600CE	100-240V 50/60Hz 100mA 5VDC 600mA -10 to +45 °C	EN 60950-1: 2001 + A11: 2004	GS, TÜV
S0- Transformer	Vogt	503 05 903 00	1.5kVrms	EN 60950-1	Tested in application
PCB	Various	FR4	V-0, min. 1mm	--	--
Enclosure (TA-BOX only)	Various	Various	Metal, plastic min. HB	--	--

Supplementary information:

¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance

1.6.2	TABLE: Electrical DC data (in normal conditions)				
U (V)	I (A)	I _{rated} (A)	P (W)	Condition/status	
5.0	0.041	0.11	0.205	TA + POX: Standby	
	0.055		0.275	TA + POX: Data transfer	
	0.046		0.230	TA + HUX: Standby	
	0.051		0.255	TA + HUX: Data transfer	
	0.065		0.325	TA + HIX: Standby	
	0.068		0.340	TA + HIX: Data transfer	
	0.045		0.225	TA + SOC: Standby	
	0.047		0.0235	TA + SOC: Data transfer	

Supplementary information:

1.6.2	TABLE: electrical AC data (in normal conditions)						P
	EUT: PS and TA + HIX						—
Rated (A)	U (V)	f[Hz]	I (A)	P (W)	S[VA]	condition/status	
0.1	90.4	60.5	0.020	0.81	1.77	Data transfer	
	120.5	60.5	0.016	0.81	1.98		
	132.6	60.5	0.015	0.81	2.03		
	90.3	50.0	0.019	0.81	1.73		
	120.5	50.0	0.016	0.81	1.94		
	132.6	50.0	0.015	0.81	2.00		
	90.4	49.5	0.019	0.81	1.73		
	120.5	49.5	0.016	0.81	1.94		
	132.6	49.5	0.015	0.81	1.99		
	208.0	60.5	0.012	0.86	2.58		
	231.1	60.5	0.012	0.88	2.72		
	265.3	60.5	0.011	0.92	2.96		
	208.0	50.0	0.012	0.86	2.54		
	231.1	50.0	0.012	0.88	2.69		
	265.3	50.0	0.011	0.91	2.92		
	208.0	49.5	0.012	0.86	2.54		
231.1	49.5	0.012	0.88	2.69			
265.3	49.5	0.011	0.91	2.92			
supplementary information							

2.3.5	TABLE: Test for operating voltages generated externally		P
	Test voltage:	120VAC 50Hz	—
	Test time for each test:	< 30 min	—
	Line to be tested:	S0	—
Between:	Measured voltage U[V]:	Limit:	
RS232 – S0	< 0.1Vp	< 60VDC, < 42,4Vp	
supplementary information			

2.5/3.5.4	TABLE: limited power source				P
	Output of: Power supply Operation voltage: 254V 50Hz Limits of table 2B.				—
Op. Mode:	U[V]	I[A]	S[VA]	Limit	
Open circuit	5.13	0.00	0.00	≤8A, ≤ 20V, ≤ 100VA	
Load	4.86	0.52	2.51		
Load	4.82	0.63	3.04		
Load	4.80	0.66	3.16		
Short circuit	0.00	0.00	0.00		
supplementary information					

2.10.2	TABLE: Working voltage			P
Voltage between:	Peak voltage [V]:	RMS voltage [V]:	Comments:	
SELV – TNV-1	120	120		
supplementary information				

2.10.3/4	TABLE: clearance and creepage distance measurements						P
clearance cl and creepage distance dcr between:	insulation	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
TA + POX: SELV - TNV	(B)	120	120	1.0	2.0	1.5	2.0
TA + POX: TNV - Enclosure	(B)	120	120	1.0	>2.0	1.5	>2.0
TA + HUX: SELV - TNV	(B)	120	120	1.0	2.0	1.5	2.0
TA + HIX: SELV - TNV	(B)	120	120	1.0	2.0	1.5	2.0
TA + SOC: SELV - TNV	(B)	120	120	1.0	>2.0	1.5	>2.0
supplementary information							
(R) = Reinforced insulation (F) = Functional insulation (B) = Basic insulation							

4.3.6	TABLE: Direct plug-in equipment		P
test point	measured torque	Limit	
Power supply	< 0.08	≤ 0.25 Nm	
supplementary information			

4.5	TABLE: maximum temperatures			P
	Tamb. :	25°C		—
	Rated ambient temperature :	- 10°C to + 45°C		—
	Test voltage (V) :	5VDC + 5%		—
	Operation mode..... :	A: Standby (5.25VDC) B: Data transfer (5.25VDC)		—
Sensor No.:	maximum temperature T of part/at::	A T (°C)	B T (°C)	allowed T _{max} (°C)
1	TA + POX: Top enclosure (metal)	27.1	27.2	50 ³⁾
2	TA + POX: Bottom enclosure (metal)	27.0	27.1	50 ³⁾
2	TA + POX: PCB near D11	28.3	28.8	110 ²⁾
3	TA + HUX: D4	28.4	28.7	75 ¹⁾
4	TA + HIX: PCB near D1	28.9	29.2	110 ²⁾
5	TA + SOC: D1	28.5	29.0	75 ¹⁾
Supplementary information:				
1) Plastic: 95°C – 45°C + 25°C = 75°C				
2) PCB: 130°C – 45°C + 25°C = 110°C				
3) Metal: 70°C – 45°C + 25°C = 50°C				

5.1	TABLE: Touch current and protective conductor current			P
	Measurement point..... :	PS DC out		—
	Limit (mA)	0.25		—
U[V]:	f[Hz]:	L[mA]:	N[mA]:	
207.0	60.5	0.040	0.041	
207.0	50.0	0.033	0.034	
207.0	49.5	0.034	0.033	
230.0	60.5	0.045	0.045	
230.0	50.0	0.038	0.037	
230.0	49.5	0.036	0.038	
264.0	60.5	0.051	0.051	
264.0	50.0	0.042	0.043	
264.0	49.5	0.043	0.042	
supplementary information				

5.1	TABLE: Touch current and protective conductor current			P
	Measurement point	ISDN S0		—
	Limit (mA)	0.25		—
	U[V]:	f[Hz]:	L[mA]:	N[mA]:
	207.0	60.5	0.013	0.013
	207.0	50.0	0.011	0.011
	207.0	49.5	0.011	0.012
	230.0	60.5	0.014	0.014
	230.0	50.0	0.012	0.012
	230.0	49.5	0.012	0.011
	264.0	60.5	0.016	0.016
	264.0	50.0	0.014	0.013
	264.0	49.5	0.013	0.013
supplementary information				

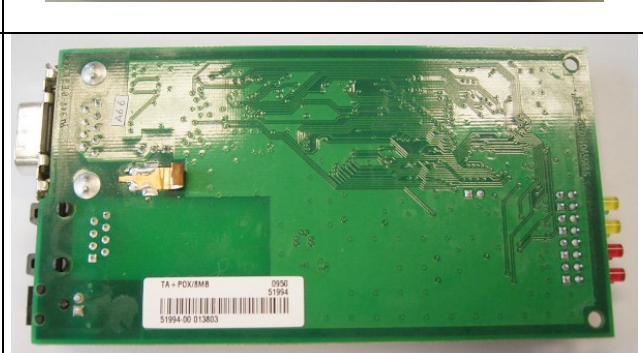
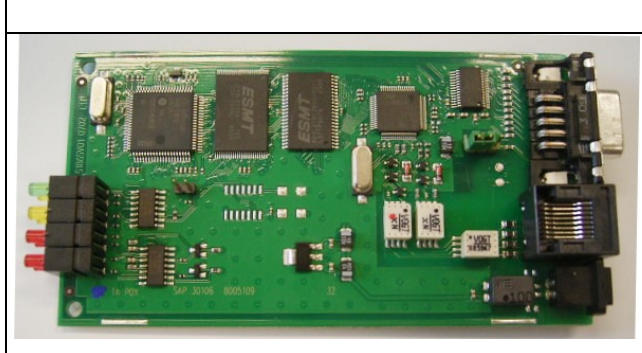
5.2	TABLE: electric strength tests, impulse tests and voltage surge tests		P
test voltage applied between:		test voltage	breakdown Yes / No
TA + POX:			
TNV - SELV		2121VDC	No
TNV - Enclosure			No
TA + HUX:			
TNV – SELV		2121VDC	No
TA + HIX:			
TNV – SELV		2121VDC	No
TA + SOC:			
TNV – SELV		2121VDC	No
supplementary information			

5.3	TABLE: Fault condition tests					P
	Ambient temperature				25°C	—
	Power source for EUT				5VDC 3A	—
Component No.	Fault	Supply voltage (VDC)	Test time (min.)	Current (A)	Observation	
TA + POX:						
C45	(SC)	5.0	15	0.6	No fire, no abnormal temperatures	
C46	(SC)	5.0	15	3.0	No fire, no abnormal temperatures	
TA + HUX:						
C1	(SC)	5.0	15	0.040	No fire, no abnormal temperatures	
C4	(SC)	5.0	15	0.035	No fire, no abnormal temperatures	
TA + HIX:						
C1	(SC)	5.0	15	0.038	No fire, no abnormal temperatures	
C7	(SC)	5.0	15	0.036	No fire, no abnormal temperatures	
TA + SOC:						
C1	(SC)	5.0	15	0.039	No fire, no abnormal temperatures	
C2	(SC)	5.0	15	0.034	No fire, no abnormal temperatures	
supplementary information						
(SC) Short circuit						
(OC) Open circuit						
(OL) Over load						
(WP) Installation with wrong polarity						

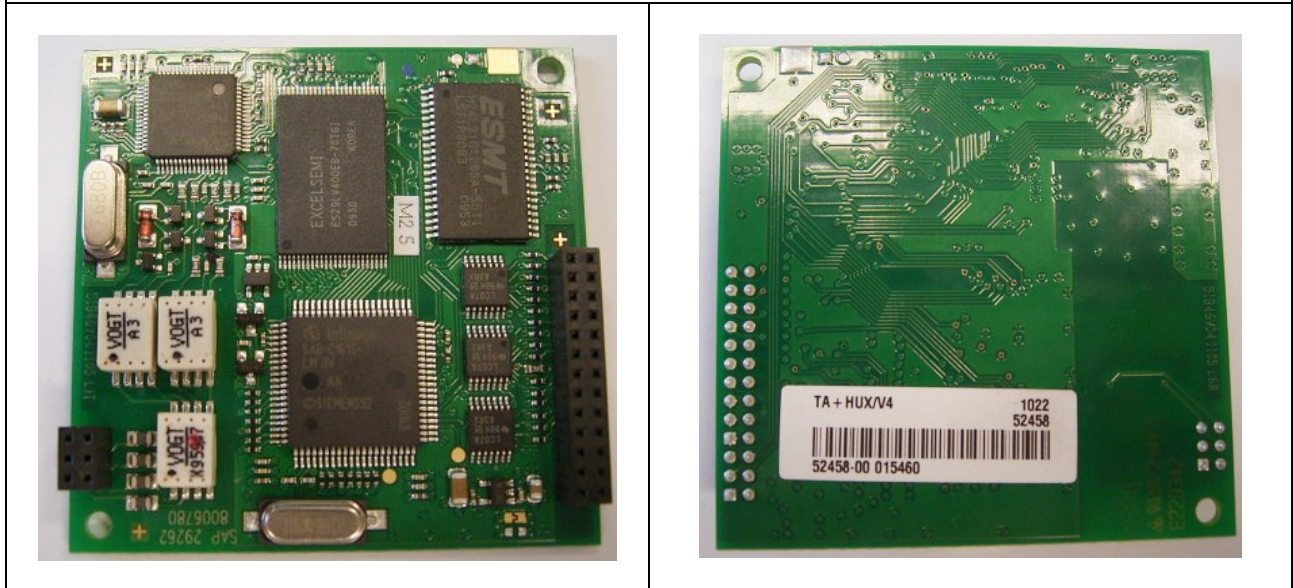
List of test equipment				
Test equipment:	Test/measurement:	Inv.-No.:	Calibration:	
			[Y/N]	Next
Data Logger	Temperature, voltage and current	SAF-5137	Y	10.2010
Multimeter	Voltage and current	SAF-5407	Y	04.2011
Multimeter	Voltage and current	SAF-0236	Y	04.2011
Slide gauge	Clearances and creepage	SAF-5013	Y	06.2011
Clearances and creepage gauges	Clearances and creepage	SAF-5016	Y	06.2011
PC-Test-System	Touch current and temperature	SAF-5136	Y	06.2011
Power amplifier	Power source	SAF-5178	N	--
Power Analyzer	Current, voltage, VA power and power	SAF-5175	Y	05.2011
Clock	Time	SAF-5058	Y	05.2011

List of test equipment				
Test equipment:	Test/measurement:	Inv.-No.:	Calibration:	
			[Y/N]	Next
Lab balance	Weight	SAF-5079	Y	05.2011
High voltage tester DC	Electric strength	SAF-5182	Y	05.2011
Torque balance	Torque	SAF-5224	Y	02.2011
Test generator figure 15A	Electric strength	SAF-5139	Y	06.2011
Test probe figure 16	Protection from electrical shock	SAF-5001	Y	06.2011
Test finger figure 19	Protection from electrical shock	SAF-5003	Y	06.2011
Test pin figure 20	Protection from electrical shock	SAF-5005	Y	06.2011

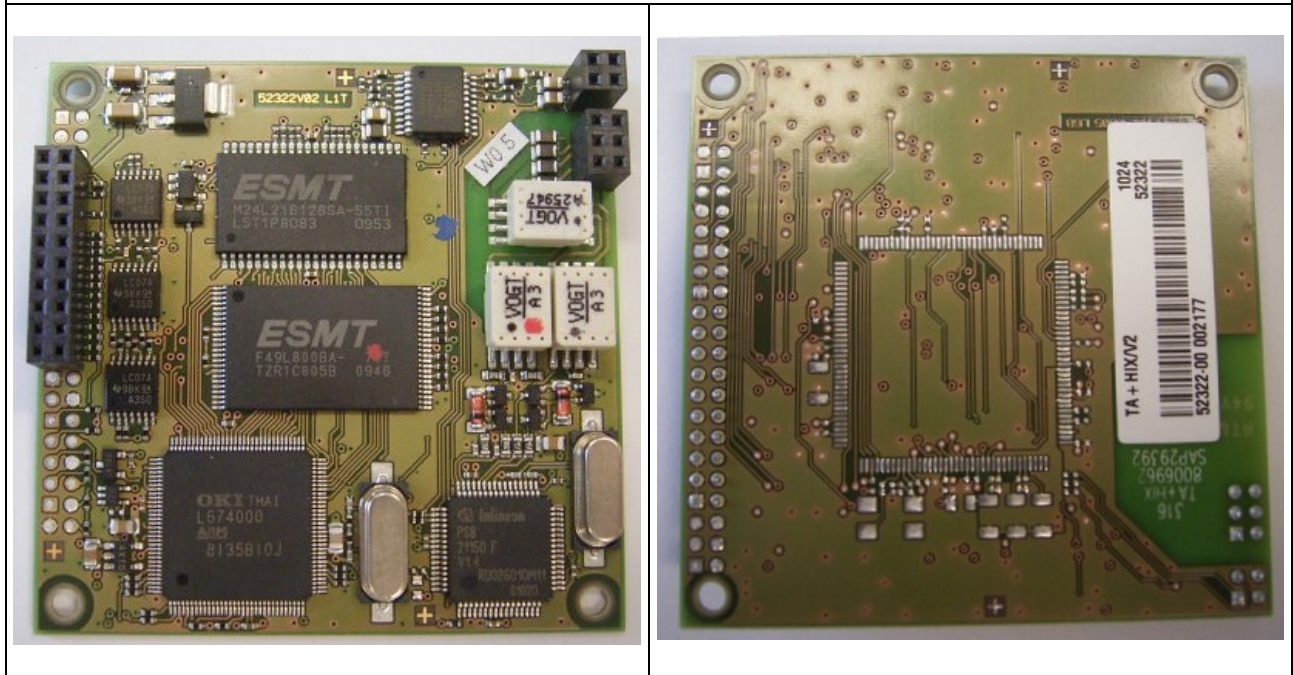
Annex 1: Photo documentation TA + POX



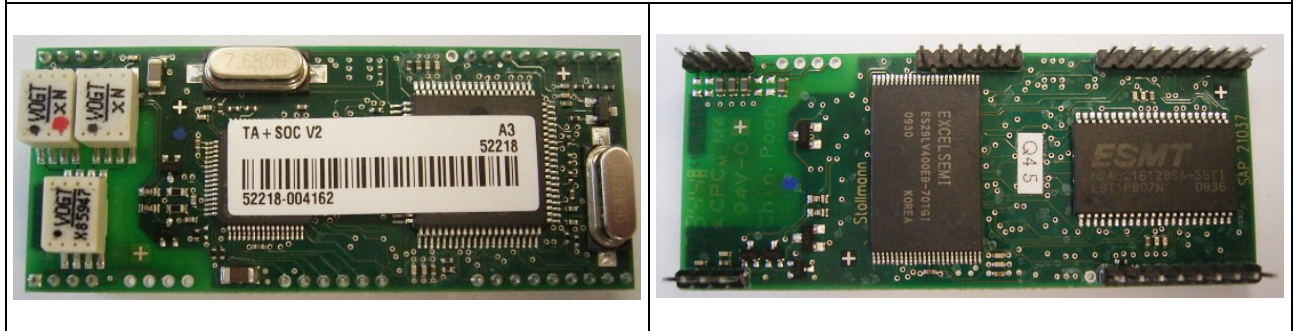
Annex 1: Photo documentation TA + HUX



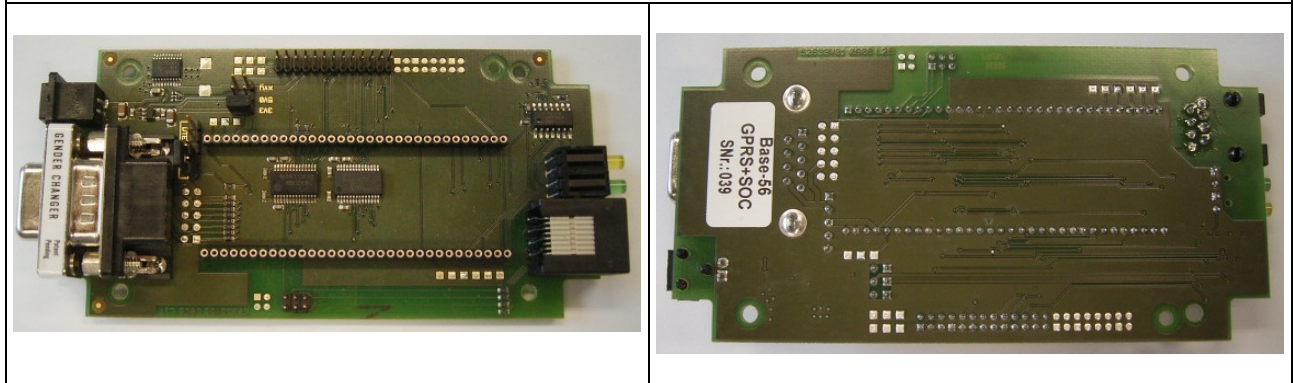
Annex 1: Photo documentation TA + HIX



Annex 1: Photo documentation TA + SOC



Annex 1: Photo documentation test Board for TA + HUX, TA + HIX and TA + SOC



Annex 1: Photo documentation Power Supply

