SLOVENSKI STANDARD

SIST EN 50428:2006/A1:2007

01-december-2007

Stikala za gospodinjstva in podobne nepremiļne elektriļne inġtalacije ï Spremljevalni standard ï Stikala in pripadajoļi pribor za uporabo elektronskih sistemov doma in v stavbah

Switches for household and similar fixed electrical installations - Collateral standard - Switches and related accessories for use in home and building electronic systems (HBES)

Schalter fr Haushalt und hnliche ortsfeste elektrische Installationen - Ergnzungsnorm - Schalter und hnliches Installationsmaterial zur Verwendung in elektronischer Systemtechnik fr Heim und Gebude (ESHG)

Interrupteurs pour installations lectriques fixes domestiques et analogues - Norme collatrale - Interrupteurs et appareils associs pour usage dans les systmes lectroniques des foyers domestiques et btiments (HBES)

Ta slovenski standard je istoveten z: **EN 50428:2005/A1:2007**

ICS:

29.120.40	Stikala	Switches
97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use

SIST EN 50428:2006/A1:2007 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50428/A1

October 2007

ICS 29.120.40; 97.120

English version

Switches for household and similar fixed electrical installations - Collateral standard - Switches and related accessories for use in home and building electronic systems (HBES)

Interrupteurs pour installations électriques fixes domestiques et analogues - Norme collatérale - Interrupteurs et appareils associés pour usage dans les systèmes électroniques des foyers domestiques et bâtiments (HBES)

Schalter für Haushalt und ähnliche ortsfeste elektrische Installationen - Ergänzungsnorm - Schalter und ähnliches Installationsmaterial zur Verwendung in elektronischer Systemtechnik für Heim und Gebäude (ESHG)

This amendment A1 modifies the European Standard EN 50428:2005; it was approved by CENELEC on 2007-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 50428:2005/A1:2007 E

Foreword

This amendment was prepared by the Technical Committee CENELEC TC 23B, Switches for household and similar fixed electrical installations.

The text of the draft was submitted to the formal vote and was approved by CENELEC as amendment A1 to EN 50428:2005 on 2007-10-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2008-10-01

- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2010-10-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2004/108/EC. See Annex ZZ.

1 Scope

Replace the 1st sentence of the 7th paragraph by:

Functional safety aspects of HBES switches are not covered by this standard.

Replace the 8th paragraph by:

In locations where special conditions prevail, e.g. higher temperature, special constructions may be required.

3 Definitions

Add the following new definition:

3.200
HBES, Home and Building Electronic Systems
a multi-application system where the functions are decentrally distributed and linked through a common communication process
(EN 50090-2-3, 3.10)

NOTE HBES is used in homes and buildings plus their surroundings. Functions of the system are e.g.: switching, open loop controlling, closed loop controlling, monitoring and supervising.

7 Classification

Add the following new classification:

7.1.202 according to the installation environment:

– switches intended to be used in SELV/PELV environment only;

– switches intended to be used in SELV/PELV and/or mains environment.

10 Protection against electric shock

Delete the paragraph before the compliance.

13 Constructional requirements

Add the following new subclause:

13.201 The ends of leads of HBES switches, if any, may be prepared but pre-soldering shall not be used.

Compliance is checked by inspection.

16 Insulation resistance and electric strength

Replace Table 14 by:

Table 14 – Test voltage, points of application and minimum values of insulating resistance for the verification of dielectric strength

9	Between main supply circuits and SELV and PELV circuits	7		3 750
10	Between a SELV or PELV circuit below 25 V a.c. and a SELV or PELV circuit above 25 V a.c.	-	500	500
11	Between a SELV or PELV circuit above 25 V a.c and accessible surfaces (see Clause 10)	-	500	500
12	Between a SELV and PELV circuits	-	500	500

23 Creepage distances, clearances and distances through sealing compound

23.201 Specification of insulation

Replace the 1st sentence by:

The following parameters apply:

23.203 Dimensioning of clearances of basic, double or reinforced insulation between circuits

Delete the 1st paragraph.

Replace the 2nd paragraph by:

If no verification test is carried out, clearances of basic insulation shall be dimensioned as specified in Table 202 taking into account that the required impulse withstand voltage is equal to the rated impulse withstand voltage of the HBES switch (as defined in Table 201).

Replace the 4th paragraph by:

Double insulation consists of basic insulation and supplementary insulation. Each shall be dimensioned as specified in Table 202, if no verification test is carried out.

Replace the 6th paragraph by:

Clearances of reinforced insulation shall be dimensioned as specified in Table 202 taking into account that the required impulse withstand voltage is one step higher than the rated impulse withstand voltage of the HBES-switch.

In the 3rd paragraph after Table 202, **add** a dashed item before the note as follows:

– if the parts are rigid or located by mouldings or if the construction is such, that there is no likelihood of distances being reduced during mounting, connection and normal use and

Replace Table 204 by:

Table 204 – Minimum clearances with verification test

Required impulse withstand voltage V	Minimum clearances with verification test mm
4 000	1,2
6 000	2,0

23.204 Dimensioning of creepage distances of basic, double or reinforced insulation between circuits

Replace the 2nd paragraph by:

If no verification test is carried out, creepage distances of basic, supplementary and reinforced insulation shall be selected from Table 205.

Replace Table 205 by:

Table 205 – Minimum creepage distances of basic, supplementary and reinforced insulation without verification test

Rated insulation voltage (r.m.s.) V	Minimum creepage distance mm							
	Basic and supplementary insulation				Reinforced insulation			
	Printed wiring material	Material group I	Material group II	Material group III	Printed wiring material	Material group I	Material group II	Material group III
50	0,2 [a]	0,6	0,85	1,2	N.A.	N.A.	N.A.	N.A.
250	3,0 [a]	3,0 [a]	3,0 [a]	3,0 [a]	5,5 [a]	5,5 [a]	5,5 [a]	5,5 [a]
[a] These cases are limited to these values as a creepage distance should not be less than the associated clearance.								
N.A.: These values are not applicable, as these situations are not mentioned in Figures 201a) to 201e).								

Move the compliance paragraph below Table 205 to the end of the subclause.

Replace the title of Table 206 by:

Table 206 - Minimum creepage distances of basic, supplementary and reinforced insulation with verification test

23.205 Solid insulation

Add the following paragraph at the end of the subclause:

Compliance is checked by the test of Clause 16.

23.206 Protective separation of the supply for the SELV/PELV circuit

Add the following paragraph at the end of the subclause:

Compliance is checked by the appropriate tests according to EN 61558-2-6.

26 EMC requirements

Replace the 1st sentence by:

Replacement of this clause of Part 2-1 by:

Replace the last but one paragraph by:

For HBES switches using PL (power line) for mains signalling, the emission requirements of EN 50065-1 apply. For immunity, the requirements of Part 2-1 apply and in addition, the requirements of EN 50065-2-1 or EN 50065-2-3, if applicable.

26.1 Immunity

Replace the 5th paragraph by:

The test set-ups are described in Annex CC for HBES switches using TP-Media.

26.1.2 Surge immunity test for 1,2/50 wave impulses

In Table 209, **replace** the last row by the following 2 rows:

DC – Power Ports [a]	Line to Line	0,5 kV
[a] Does not apply to: - DC-power ports also serving as ports for TP-media, or - ports for accumulators or batteries.		

26.1.5 Radiated electromagnetic field test

Replace the 2nd paragraph by:

The test is carried out according to EN 61000-4-3 by applying a field strength of 3 V/m in the frequency range 80 MHz to 1 000 MHz, 1 400 Mhz to 2 000 MHz with the exception of the exclusion band as defined in the relevant product standard for transmitters, receivers and duplex transceivers.

26.2.1 Low-frequency emission

Delete the 3rd paragraph.

26.2.3 Conducted radio frequency emission 0,15 MHz to 30 MHz on TP media

After the 3rd paragraph, **add** the following new paragraph:

The test set-ups are described in CC.2.3.

Annexes

Annex BB

Replace the 2nd paragraph by:

The minimum value of distance X is 1,0 mm.

Annex CC

CC.1.1 Introduction

Add the following note after the 1st paragraph:

NOTE For HBES switches whose cycle of operation is limited by their application (for example, passive infrared, time delay electronic switches, etc.), the rate of operation during the tests may be specified by the manufacturer.

CC.2.3 Conducted emission 0,15 MHz to 30 MHz

Replace this subclause by:

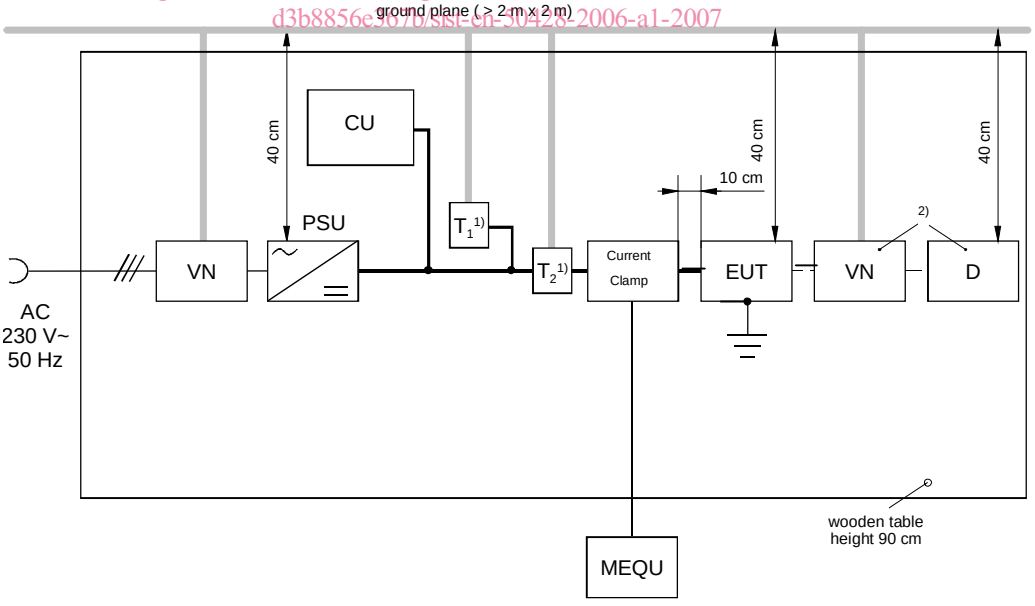
CC.2.3 Conducted emission 0,15 MHz to 30 MHz

Either the test according to CC.2.3.1, CC.2.3.2 or CC.2.3.3 shall be made.

Delete Subclause CC.2.3.1 and the relevant Tables CC.1 and CC.2.

Renumber Subclauses CC.2.3.2, CC.2.3.3 and CC.2.3.4 into CC.2.3.1, CC.2.3.2 and CC.2.3.3, respectively.

Replace Figure CC.17 by:



NOTE 1 The terminations T_1 and T_2 have to be used alternatively. T_1 is used for minimum HBES configuration test. T_2 is used for EUT test. The output either of T_1 or T_2 has to be terminated with 50 Ω/m to ground.

NOTE 2 The device D together with an I/O wire is needed in the case the EUT has beside the MI another interface where devices may be connected to.

Figure CC.17 – Test arrangement for common mode noise current test on the bus cable