



SLOVENSKI STANDARD

SIST EN 50425:2008

01-april-2008

Stikala za gospodinjstva in podobne nepremične električne inštalacije - Spremljevalni standard - Stikala za gasilce za zunanje in notranje znake in svetilke

Switches for household and similar fixed electrical installations - Collateral standard - Fireman's switches for exterior and interior signs and luminaires

Schalter für Haushalt und ähnliche ortsfeste elektrische Installationen - Kollaterale Norm - Feuerwehrscharter für äußere und innere Anzeigen und Leuchten

Interrupteurs pour installations électriques fixes domestiques et analogues – Norme collatérale – Interrupteurs pompiers pour enseignes lumineuses et luminaires extérieurs et intérieurs

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Ta slovenski standard je istoveten z: EN 50425:2008

ICS:

13.220.99	Drugi standardi v zvezi z varstvom pred požarom	Other standards related to protection against fire
29.120.40	Stikala	Switches

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en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50425

February 2008

ICS 29.120.40

English version

**Switches for household and similar fixed electrical installations -
Collateral standard -
Fireman's switches for exterior and interior signs and luminaires**

Interrupteurs pour installations électriques
fixes domestiques et analogues -
Norme collatérale -
Interrupteurs pompiers
pour enseignes lumineuses
et luminaires extérieurs et intérieurs

Schalter für Haushalt und ähnliche
ortsfeste elektrische Installationen -
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und innere Anzeigen und Leuchten

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This European Standard 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 European Standard 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 European Standard 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

Foreword

This European Standard has been prepared by the Technical Committee CENELEC TC 23BX, D.C. plugs and socket outlets and switches for household and similar fixed electrical installations.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50425 on 2007-10-01.

The following dates were fixed:

- latest date by which the EN 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 EN have to be withdrawn (dow) 2010-10-01

This European Standard has to be used in conjunction with EN 60669-1:1999 *Switches for household and similar fixed-electrical installations - Part 1: General requirements*. It lists the additional changes necessary to convert it into the European Standard *Switches for household and similar fixed electrical installations - Collateral standard – Fireman's switches for exterior and interior signs and luminaries*.

When this standard states 'addition', 'modification' or 'replacement' to Part 1, the relevant text of EN 60669-1:1999 is to be adapted accordingly.

NOTE The subclauses, tables and figures that are numbered starting from 101 are additional to those in EN 60669-1:1999.

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1 Scope

This clause of Part 1 applies with the following modifications:

Replacement of the first paragraph:

This collateral standard applies to fireman's switches used for the breaking of the low voltage circuits for exterior and interior signs and luminaires e.g. neon signs for a.c. only with a rated voltage not exceeding 440 V and a rated current not exceeding 125 A.

NOTE 1 The working voltage for the signs and luminous-discharge-tube installations is higher than 1 kV but lower than 10 kV and these should be in accordance with EN 50107 series.

Renumbering of the subsequent notes.

Replacement of the 6th paragraph and the new Note 6 by:

Fireman's switches complying with this standard are suitable for use between –20 °C and +70 °C.

NOTE 6 Fireman's switches are designed for overvoltage category III and used in environment of pollution degree 2 according to EN 60664-1.

2 Normative references

See Annex ZA.

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3 Definitions

This clause of Part 1 applies with the following addition:

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Additional new definition:

3.101

fireman's switch

switch for emergency disconnection of lighting installations

4 General requirements

This clause of Part 1 applies.

5 General notes on tests

This clause of Part 1 applies.

6 Ratings

This clause of Part 1 applies with the following modifications:

6.2 *Deletion in the first paragraph of the values "6 A" and "10 A"*

Addition of the values "80 A, 100 A and 125 A."

7 Classification

This clause of Part 1 applies except as follows.

7.1.1

Addition at the end:

Fireman's switches shall be only of pattern number 2, 3 or 03.

7.1.2 This subclause of Part 1 is not applicable.

7.1.4

Replacement:

7.1.4 according to the degree of protection against harmful effects due to the ingress of water:

- IPX5: switches protected against water jets;
- IPX6: switches protected against powerful water jets.

NOTE For an explanation of IP codes, see EN 60529.

7.1.5

Replacement:

7.1.5 according to the method of actuating the switch:

- tumbler.

NOTE No other actuating method is permitted.

7.1.6

Replacement:

7.1.6 according to the method of mounting the switch:

- surface-type;
- semi flush-type.

NOTE No other method of mounting is permitted.

7.1.9

Replacement:

7.1.9 according to the degree of protection against access to hazardous parts and against harmful effects due to the ingress of solid foreign objects

- IP5X: switches protected against access to hazardous parts with a wire and dust-protected;
- IP6X: switches protected against access to hazardous parts with a wire and dust-tight.

7.2 *Replacement in Table 1, first column, last line, of the values “16, 20, 25, 32, 40, and 63” by “equal to and above 16”.*

8 Marking

This clause of Part 1 applies except as follows.

8.1 Replacement of the first dash with:

- rated current in amperes (A);

Addition:

- symbols IEC 60417-5007 and IEC 60417-5008 respectively for open position (OFF) and closed position (ON),

8.3 Addition:

The following information shall be distinctly and durably marked on the fireman's switch in a position where it can be clearly seen without opening the enclosure and when the switch is installed:

- 'I' and 'O' symbols not less than 10 mm high;
- letters reading NEON in letters not less than 15 mm high.

8.6 Deletion of Note 1.

9 Checking of dimensions

This clause of Part 1 applies.

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10 Protection against electric shock

This clause of Part 1 applies.

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11 Provision for earthing

This clause of Part 1 applies.

12 Terminals

This clause of Part 1 applies except as follows:

Replacement of Table 2 by the following new table:

Table 2 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screw type terminals

Ranges of rated currents A	Rigid conductors (solid or stranded) ^a	
	Nominal cross-sectional areas mm ²	Diameter of largest conductor mm
16 ^b	From 1,5 up to 4 inclusive	2,72
Above 16 up to and including 25	From 2,5 up to 6 inclusive	3,34
Above 25 up to and including 32	From 4 up to 10 inclusive	4,34
Above 32 up to and including 50	From 6 up to 16 inclusive	5,46
Above 50 up to and including 80	From 10 up to 25 inclusive	6,85
Above 80 up to and including 100	From 16 up to 35 inclusive	7,90
Above 100 up to and including 125	From 25 up to 50 inclusive	9,10

^a The use of flexible conductors is permitted.

^b Each supply terminal of fireman's switches, other than those of pattern numbers 3 and 03, shall allow the connection of two 2,5 mm² conductors. For fireman's switches having a rated voltage not exceeding 250 V a round hole is sufficient for the connection of two 2,5 mm² conductors.

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12.2.5 Replacement of Table 3 by the following new table:

Table 3 – Tightening torque for verification of the mechanical strength of screw-type terminals

Nominal diameter of thread mm	Torque Nm				
	1	2	3	4	5
Up to and including 1,6	0,05	–	0,1	0,1	–
Above 1,6 up to and including 2,0	0,1	–	0,2	0,2	–
Above 2,0 up to and including 2,8	0,2	–	0,4	0,4	–
Above 2,8 up to and including 3,0	0,25	–	0,5	0,5	–
Above 3,0 up to and including 3,2	0,3	–	0,6	0,6	–
Above 3,2 up to and including 3,6	0,4	–	0,8	0,8	–
Above 3,6 up to and including 4,1	0,7	1,2	1,2	1,2	1,2
Above 4,1 up to and including 4,7	0,8	1,2	1,8	1,8	1,8
Above 4,7 up to and including 5,3	0,8	1,4	2,0	2,0	2,0
Above 5,3 up to and including 6,0	1,2	1,8	2,5	3,0	3,0
Above 6,0 up to and including 8,0	2,5	2,5	3,5	6,0	4,0
Above 8,0 up to and including 10,0	–	3,5	4,0	10,0	6,0
Above 10,0 up to and including 12,0	–	4,0	–	–	8,0
Above 12,0 up to and including 15,0	–	5,0	–	–	10,0

NOTE 1 Column 1 applies to screws without heads if the screw when tightened does not protrude from the hole, and to other screws which cannot be tightened by means of a screwdriver with a blade wider than the diameter of the screw.
Column 2 applies to nuts of mantle terminals which are tightened by means of a screwdriver.
Column 3 applies to other screws which are tightened by means of a screwdriver.
Column 4 applies to nuts of mantle terminals in which the nut is tightened by means other than a screwdriver.
Column 5 applies to screws or nuts, other than nuts of mantle terminals, which are tightened by means other than a screwdriver.

Where a screw has a hexagonal head with a slot for tightening with a screwdriver and the values of columns 3 and 5 are different, the test is made twice, first applying to the hexagonal head the torque specified in column 5 by means other than a screwdriver and then applying the torque specified in column 3 by means of a screwdriver. If the values of columns 3 and 5 are the same, only the test with the screwdriver is made.

NOTE 2 For mantle terminals the specified nominal diameter is that of the slotted stud.

NOTE 3 The shape of the blade of the test screwdriver should suit the head of the screw to be tested.

NOTE 4 The screws and nuts should not be tightened in jerks.

Replacement of Table 4 by the following new table:

Table 4 – Test values for flexion and pull-out for copper conductors

Conductor cross-sectional area mm ²	Diameter of bushing hole ^a mm	Height <i>H</i> ^b mm	Mass for conductor kg
1,5	6,5	260	0,4
2,5	9,5	280	0,7
4,0	9,5	280	0,9
6,0	9,5	280	1,4
10,0	9,5	280	2,0
16,0	13,0	300	2,9
25,0	13,0	300	4,5
35,0	14,5	320	6,8
50,0	16,0	340	9,5

^a If the bushing hole diameter is not large enough to accommodate the conductor without binding, a bushing having the next larger hole size may be used.

^b Tolerance for height *H* = ±15 mm.

12.2.6 Replacement of Table 5 by the following new table:

Table 5 – Test values for pull-out test
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Cross-sectional area of conductors accepted by the terminal mm ²	From 1,5 up to 2,5 inclusive	From 2,5 up to 4 inclusive	From 4 up to 6 inclusive	From 6 up to 10 inclusive	From 10 up to 16 inclusive	From 16 up to 25 inclusive	From 25 up to 35 inclusive	From 35 up to 50 inclusive
Pull N	50	50	60	80	90	100	190	235

12.2.7 Replacement of Table 6 by the following new table:

Table 6 – Composition of conductors

Cross-sectional area mm ²	Number of wires and nominal diameter of wires mm	
	Solid conductor	Stranded conductor
1,5	1 × 1,38	7 × 0,52
2,5	1 × 1,78	7 × 0,67
4,0	1 × 2,25	7 × 0,86
6,0	1 × 2,76	7 × 1,05
10,0	1 × 3,57	7 × 1,35
16,0	–	7 × 1,70
25,0	–	7 × 2,14
35,0	–	7 × 2,53
50,0	–	19 × 1,83

12.3.2 Replacement of Table 7 by the following new table:

Table 7 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screwless terminals

Rated current A	Conductors		
	Nominal cross-sectional areas mm ²	Diameter of largest rigid conductor mm	Diameter of largest flexible conductor mm
16 ^a	1,5 to 2,5	2,13	2,21

^a Each supply terminal of fireman's switches other than those of pattern numbers 3 and 03 shall allow the connection of two 2,5 mm² conductors. In such cases a terminal with separate independent clamping means for each conductor shall be used.

12.3.11 Replacement of Table 8 by the following new table:

Table 8 – Test current for the verification of electrical and thermal stresses in normal use of screwless terminals

Rated current A	Test current A	Cross-sectional area of the conductor mm ²
16	22	2,5

12.3.12 Replacement of Tables 9 and 10 by the following new tables:

Table 9 – Cross-sectional areas of rigid copper conductors for deflection test of screwless terminals

Rated current of the fireman's switch A	Cross-sectional area of the test conductor mm ²	
	1st test sequence	2nd test sequence
16	1,5	2,5

Table 10 – Deflection test forces

Cross-sectional area of the test conductor mm ²	Force for deflecting the test conductor ^a N
1,5	0,5
2,5	1,0

^a The forces are chosen so that they stress the conductors close to the limit of elasticity.

13 Constructional requirements

This clause of Part 1 applies except as follows.

13.9 This subclause is not applicable.