SLOVENSKI STANDARD
SIST HD 60269-2:2013/oprA2:2022

01-junij-2022

Nizkonapetostne varovalke - 2. del: Dodatne zahteve za varovalke, ki jih uporabljajo strokovne osebe (uporaba varovalk zlasti v industriji) - Primeri tipov standardiziranih varovalk od A do K - Dopolnilo A2

Amendment 2 - Low-voltage fuses - Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) - Examples of standardized systems of fuses A to K

Niederspannungssicherungen - Teil 2: Zusätzliche Anforderungen an Sicherungen zum Gebrauch durch Elektrofachkräfte bzw. elektrotechnisch unterwiesene Personen (Sicherungen überwiegend für den industriellen Gebrauch) - Beispiele für genormte Sicherungssysteme A bis K

Fusibles basse tension - Partie 2: Exigences supplémentaires pour les fusibles destinés à être utilisés par des personnes habilitées (fusibles pour usages essentiellement industriels) - Exemples de systèmes de fusibles normalisés A à K

Ta slovenski standard je istoveten z: **HD 60269-2:2013/prA2:2022**

ICS:

29.120.50	Varovalke in druga nadtokovna zaščita	Fuses and other overcurrent protection devices

SIST HD 60269-2:2013/oprA2:2022 **en,fr,de**

32B/714/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 60269-2/AMD2 ED5**	
DATE OF CIRCULATION: **2022-03-11**	CLOSING DATE FOR VOTING: **2022-06-03**
SUPERSEDES DOCUMENTS: **32B/703/CD, 32B/707A/CC**	

IEC SC 32B : LOW-VOLTAGE FUSES

SECRETARIAT: Germany	SECRETARY: Mr Michael Altenhuber
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING ☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Amendment 2 - Low-voltage fuses - Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) - Examples of standardized systems of fuses A to K

PROPOSED STABILITY DATE: 2025

NOTE FROM TC/SC OFFICERS:

The following content shall be amended as Amendment 2 to IEC 60269-2, Ed.5.0, 2013 and 1 Amendment 1, 2016.

System A

Paragraph 1 General
Replace the present text by: “IEC 60269-1 applies with the following additional and modified requirements.

Paragraph 1.1 Scope
Replace the number “1250A” by “1600A”

Paragraph 5.3.1 Rated current of fuse-link
Delete the entire sentence: “ A rated current of….”

Table 102
Delete the last line: “ 224….”

Table 103
Replace by new table

Table 103 – Minimum rated breaking capacities

Rated voltage	Minimum rated breaking capacities
≤ 690 V a.c.	50 kA
690 V a.c. ≤ U ≤ 1000 V a.c.	20 kA
≤ 750 V d.c.	25 kA
750 V ≤ U ≤ 1500 V d.c.	10 kA

Table 105
Replace by new table

Table 105 – Minimum cross-sectional ranges of unprepared conductors

Size	Range of the rated currents of the fuse-links A	Cross-sectional area ranges mm²	
		Copper	Aluminium
000	2 to 160	6 to 70	25 to 95
00	2 to 160	6 to 70	25 to 95
1	80 to 250	25 to 120	35 to 150
2	125 to 400	50 to 240	70 to 300
3	315 to 630	50 to 2x120	70 to 2x150
4	500 to 1250	according to the manufacturer	
4a	500 to 1600	according to the manufacturer	

Paragraph 7.7 I^2t characteristics
In the first paragraph the words: “ ….and for 224A”delete

Table 106

Delete the last line: " 224…."

Paragraph 7.7 I^2t characteristics
Replace the entire paragraph under Table 106 with: "The maximum operating I^2t values are in Table 107 for the stated test value"

Paragraph 8.1.4 Arrangement of the fuse and dimensions
Replace in the second paragraph the word "model" with "reference"

Paragraph 8.2.2.1 Points of application of test voltage
Replace in the second paragraph the word "test fuse base" with "reference fuse base"

Paragraph 8.3.1 Arrangement of fuse and dimensions
Replace in the third paragraph the numbers "1250A" with "1600A" and "are" by "shall be"

Table 111
Replace by new table

Table 111 – Torque to be applied to the terminal screws

I_n A	Size	Size of screws	Torque Nm
160	000	M 8	10
160	00	M 8	10
250	1	M 10	32
400	2	M 10/12	32/40
630	3	M 10/12	32/40
1250	4	M 12	40
1600	4a	2× M 12 or 1x M16	40/56

Paragraph 8.4.3.1 Verification of conventional non-fusing and fusing current

Delete the "." behind b) and add ", see table 11 of part 1"

Table 112
Delete the third line in the table: "0…."

Paragraph 8.5.5.1.3 Acceptability of test results
Add at the end of the paragraph the sentence "The fuse or the circuit-breaker of the source shall not operate.

Paragraph 8.5.8 Acceptability of test results
Delete the entire paragraph and its text.

Paragraph 8.7.4 **Verification of overcurrent distribution**

Delete the present 2nd paragraph and insert the following text

The samples are arranged as for the breaking capacity tests according to 8.5. Regarding the power factor Table 20, Test No.2, of IEC 60269-1applies

The tolerances for prospective currents for minimum pre-arcing I^2t and maximum operating I^2t tests are +/–5 %.

Delete the last paragraph

Paragraph 8.7.4 Table 113
Replace by new table

Table 113 – Test currents and I^2t limits for discrimination test

I_n	Minimum pre-arcing I^2t		Maximum operating I^2t		Discrimination ratio
	Prospective I r.m.s.	I^2t	Prospective I r.m.s.	I^2t	
A	kA	A^2s	kA	A^2s	
2	0,013	0,67	0,064	16,4	Can be calculated
4	0,035	4,9	0,13	67,6	
6	0,064	16,4	0,22	193,6	
8	0,1	40	0,31	390	
10	0,13	67,6	0,4	640	
12	0,18	130	0,45	820	
13	0,18	190	0,55	950	
16	0,27	291	0,55	1 210	01:01,6
20	0,4	640	0,79	2 500	
25	0,55	1 210	1	4 000	
32	0,79	2 500	1,2	5 750	
35	0,79	3 000	1,5	7 000	
40	1	4 000	1,5	9 000	
50	1,2	5 750	1,85	13 700	
63	1,5	9 000	2,3	21 200	
80	1,85	13 700	3	36 000	
100	2,3	21 200	4	64 000	
125	3	36 000	5,1	104 000	
160	4	64 000	6,8	185 000	
200	5,1	104 000	8,7	302 000	
224	5,9	139 000	10,2	412 000	
250	6,8	185 000	11,8	557 000	
300	8,7	302 000	15	900 000	
315	8,7	302 000	15	900 000	
355	10,2	412 000	20	1 200 000	
400	11,8	557 000	20	1 600 000	
425	11,8	650 000	26	1 900 000	

500	15	900 000	26	2 700 000	
630	20	1 600 000	37	5 470 000	
800	26	2 700 000	50	10 000 000	
1 000	37	5 470 000	66	17 400 000	
1 250	50	10 000 000	90	33 100 000	
1 600	66	17 400 000	120	50 000 000	

Ask editor to remove dotted lines

Paragraph 8.10.2 Test method
In the fourth paragraph, second sentence change text from “However the current I_m….”
to “However the measuring current I_m… “

Paragraph 8.11.1.2 Table 118
Replace by new table

Table 118 – Force to withdraw the fuse-link from the fuse-base contacts

Size	Withdrawal force F_{min} N	Withdrawal force F_{max} N
00	60	250
1	110	350
2	150	400
3	210	400
4[1]	Not applicable	Not applicable
4a[2]	Not applicable	Not applicable

1) fuse-link is fixed with screws in the fuse base
2) this fuse-base is locked in the on position

Figure 103
Delete “0” in line 4, column 1 of the table and add ”1” in the same position

Figure 105
Replace the text in the footnote c) by: “preferred number and cross-sections, other designs possible”
Delete the line with size 0

Annex AA special test for cable overload protection
Delete “0” in the first sentence

Annex AA.1 Arrangement of the fuse
Delete the line ”$6x10^{-3}m^3$ for size 0”

<u>System B</u>

Figure 201
Delete seventh line “0……” in the table “Maximum values of rated power dissipation P_n”