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Miniaturne varovalke - 2. del: Taljivi vložki varovalke (IEC 60127-2:2014)

Miniature fuses - Part 2: Cartridge fuse-links (IEC 60127-2:2014)

Geräteschutzsicherungen - Teil 2: Feinsicherungseinsätze (IEC 60127-2:2014)

Coupe-circuit miniatures - Partie 2: Cartouches (CEI 60127-2:2014)

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Miniature fuses - Part 2: Cartridge fuse-links (IEC 60127-2:2014)

Coupe-circuit miniatures -
Partie 2: Cartouches
(CEI 60127-2:2014)

Geräteschutzsicherungen -
Teil 2: Feinsicherungseinsätze
(IEC 60127-2:2014)

This European Standard was approved by CENELEC on 2014-10-24. 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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

The text of document 32C/493/FDIS, future edition 3 of IEC 60127-2, prepared by SC 32C "Miniature fuses" of IEC/TC 32 "Fuses" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60127-2:2014.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-07-24
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-10-24

This document supersedes EN 60127-2:2003.

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Endorsement notice

The text of the International Standard IEC 60127-2:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61249-2-7:2002	NOTE	Harmonized as EN 61249-2-7:2002 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	-
IEC 60068-2-21	2006	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006
IEC 60127-1	2006	Miniature fuses - Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links	EN 60127-1	2006
+A1	2011		+A1	2011
ISO 3	-	Preferred numbers; Series of preferred numbers	-	-

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NORME INTERNATIONALE

Miniature fuses – Part 2: Cartridge fuse-links

Coupe-circuit miniatures – Partie 2: Cartouches

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope and object 7
2 Normative references 7
3 Terms and definitions 7
4 General requirements 7
5 Standard ratings 7
6 Marking 8
7 General notes on tests 8
8 Dimensions and construction 14
9 Electrical requirements 16
10 Standard sheets 18
Annex A (normative) Miniature fuse-links with wire terminations 38
A.1 General 38
A.2 Scope 38
A.3 General notes on tests 38
A.3.1 Type tests 38
A.3.2 Testing schedule 38
A.3.3 Test bases for tests 39
A.4 Dimensions and construction 41
A.4.1 Dimensions 41
A.4.2 Mechanical tests on terminations 41
A.4.3 Solderability of terminations 42
A.4.4 Resistance to soldering heat 42
A.5 Electrical requirements 42
A.5.1 Voltage drop 43
A.5.2 Time/current characteristic at normal ambient temperature 43
A.5.3 Breaking capacity 43
A.5.4 Fuse-link temperature 43
Bibliography 44

Figure 1 – Test fuse-base for 5 mm × 20 mm and 6,3 mm × 32 mm fuse-links – Rated currents up to and including 6,3 A (see 7.3) 11
Figure 2 – Test fuse-base for 5 mm × 20 mm and 6,3 mm × 32 mm fuse-links – Rated currents exceeding 6,3 A (see 7.3) 12
Figure 3 – Test fuse-base for breaking capacity tests (see 7.3) 13
Figure 4 – Axial pull test apparatus 15
Figure 5 – Alignment gauge (see 8.4) 16
Figure 6 – Typical test circuit for breaking-capacity tests for high-breaking capacity fuse-links (see 9.3) 17
Figure 7 – Typical test circuit for breaking-capacity tests for low- and enhanced-breaking capacity fuse-links (see 9.3) 17
Figure A.1 – Test board 39

Figure A.2 – Test base 40
Figure A.3 – Dimensions of fuse-link with wire terminations 41

Table 1 – Testing schedule for individual ampere ratings 9
Table 2 – Testing schedule for maximum ampere rating of a homogeneous series 9
Table 3 – Testing schedule for minimum ampere rating of a homogeneous series 10
Table A.1 – Testing schedule 39

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MINIATURE FUSES –

Part 2: Cartridge fuse-links

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60127-2 has been prepared by subcommittee 32C: Miniature fuses, of IEC technical committee 32: Fuses.

This third edition of IEC 60127-2 cancels and replaces the second edition published in 2003, amendment 1 (2003) and amendment 2 (2010). This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) add 4 new standard sheets 7 up to 10.

This International Standard is to be used in conjunction with IEC 60127-1:2006.

The text of this standard is based on the following documents:

FDIS	Report on voting
32C/493/FDIS	32C/498/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The clauses of this standard supplement, modify or replace the corresponding clauses in IEC 60127-1.

Where there is no corresponding clause or subclause in this standard, the clause or subclause of IEC 60127-1 applies without modification as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in IEC 60127-1 is to be adapted accordingly.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

According to the wish expressed by the users of miniature fuses, all standards, recommendations and other documents relating to miniature fuses should have the same publication number in order to facilitate reference to fuses in other specifications, for example, equipment specifications.

Furthermore, a single publication number and subdivision into parts would facilitate the establishment of new standards, because clauses and subclauses containing general requirements need not be repeated.

The new IEC 60127 series is thus subdivided as follows:

IEC 60127, *Miniature fuses* (general title).

IEC 60127-1, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*

IEC 60127-2, *Miniature fuses – Part 2: Cartridge fuse-links*

IEC 60127-3, *Miniature fuses – Part 3: Sub-miniature fuse-links*

IEC 60127-4, *Miniature fuses – Part 4: Universal modular fuse-links (UMF) – Through-hole and surface mount types*

IEC 60127-5, *Miniature fuses – Part 5: Guidelines for quality assessment of miniature fuse-links*

IEC 60127-6, *Miniature fuses – Part 6: Fuse-holders for miniature fuse-links*

IEC 60127-7, *Miniature fuses – Part 7: Miniature fuse-links for special applications*

IEC 60127-8, (Free for further documents)

IEC 60127-9, (Free for further documents)

IEC 60127-10, *Miniature fuses – Part 10: User guide for miniature fuses*

This Part of IEC 60127 covers additional requirements, test equipment and standard sheets.

The SI system of units is used throughout this standard.

MINIATURE FUSES –

Part 2: Cartridge fuse-links

1 Scope and object

This part of IEC 60127 relates to special requirements applicable to cartridge fuse-links for miniature fuses with dimensions measuring 5 mm × 20 mm and 6,3 mm × 32 mm for the protection of electric appliances, electronic equipment and component parts thereof, normally intended for use indoors.

It does not apply to cartridge fuse-links for appliances intended to be used under special conditions, such as in corrosive or explosive atmospheres.

This standard applies in addition to the requirements of IEC 60127-1.

The object of this standard is to define special and additional test methods for cartridge fuse-links applying in addition to the requirements of IEC 60127-1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-20, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-21:2006, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60127-1:2006, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links*
Amendment 1:2011

ISO 3, *Preferred numbers – Series of preferred numbers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60127-1:2006, Clause 3, apply.

4 General requirements

Clause 4 of IEC 60127-1:2006 applies.

5 Standard ratings

Clause 5 of IEC 60127-1:2006 applies.

6 Marking

Clause 6 of IEC 60127-1:2006 applies except as follows:

6.1 *Addition:*

e) A symbol denoting the rated breaking capacity. This symbol shall be placed between the marking for the rated current and the marking for the rated voltage.

These symbols are

H denoting high breaking capacity,

L denoting low breaking capacity,

E denoting enhanced breaking capacity.

EXAMPLES of marking:

T	3	1	5	L	2	5	0	V

		F	4	H	2	5	0	V

T	3	1	5	E	2	5	0	V

6.4 *Add the following paragraph after the first paragraph:*

The values for “d” and “s” shall be 0,8 mm ± 0,2 mm.

7 General notes on tests

Clause 7 of IEC 60127-1:2006 applies except as follows:

7.2.1 *Addition:*

For testing individual fuse ratings, the number of fuse-links required is 48, of which 12 are kept as spares. The testing schedule is shown in Table 1.

For the maximum ampere rating of a homogeneous series, the number of fuse-links required is 48, of which 22 are kept as spares. The testing schedule is shown in Table 2.

For the minimum ampere rating of a homogeneous series the number of fuse-links required is 33, of which 16 are kept as spares. The testing schedule is shown in Table 3.

Table 1 – Testing schedule for individual ampere ratings

Sub-clause	Description		Fuse-link no.													
			1-6	7 9 11	8 10 13	12 14 15	16 17 18	19 20 21	22 24 26	23 25 27	28 29 30	31 32 33	34 36 38	35 37 39	40 41 42	43 44 45	46 47 48
9.4 [a]	Endurance test		X														
9.2.2 [a]	Test at elevated temperature [b]						X										
9.2.1 [a]	Time/current characteristics	10 I_N		X													
		4 I_N							X								
		2,75 I_N											X				
		2,0 I_N or 2,1 I_N														X	
9.3	Breaking capacity test: Rated breaking capacity					X											
	5 times the rated current							X									
	10 times the rated current										X						
	50 times the rated current											X					
	250 times the rated current														X		
8.3	Terminations (end cap test)			X					X				X			X	
8.5 [a]	Soldered joints		X	X			X		X				X			X	
6.2 [a]	Legibility and indelibility of marking			X					X				X			X	

[a] These subclauses are to be found in IEC 60127-1.

[b] Applicable only when specified on the standard sheet.

Table 2 – Testing schedule for maximum ampere rating of a homogeneous series

Sub-clause	Description		Fuse-link numbers in decreasing value of voltage drop											
			1-6	7 8 9	10 11 12	13-17	18-27	28 29 30	31 32 33	34 35 36	37 38 39	40 41 42	43 44 45	46 47 48
9.4 [a]	Endurance test		X											
9.2.2 [a]	Test at elevated temperature [b]							X						
9.2.1 [a]	Time/current characteristics	10 I_N		X										
		4 I_N							X					
		2,75 I_N									X			
		2,0 I_N or 2,1 I_N											X	
9.3	Rated breaking capacity					X								
8.3	Terminations (end cap test)			X					X		X		X	
8.5 [a]	Soldered joints		X	X				X	X		X		X	
6.2 [a]	Legibility and indelibility of marking			X					X		X		X	

[a] These subclauses are to be found in IEC 60127-1.

[b] Applicable only when specified on the standard sheet.