

Miniature fuses - Part 7: Miniature fuse-links for special applications (IEC 60127-7:2013)

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NATIONAL FOREWORD

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English version

**Miniature fuses -
Part 7: Miniature fuse-links for special applications
(IEC 60127-7:2013)**

Coupe-circuit miniatures -
Partie 7: Eléments de remplacement
miniatures pour applications spéciales
(CEI 60127-7:2013)

Geräteschutzsicherungen -
Teil 7: G-Sicherungseinsätze für
besondere Anwendungen
(IEC 60127-7:2013)

This European Standard was approved by CENELEC on 2013-04-24. 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.

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

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 32C/458/CDV, future edition 1 of IEC 60127-7, 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 60127-7:2013.

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) 2013-01-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2013-04-24

This standard shall be used in conjunction with EN 60127-1:2006 + A1:2011.

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

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

Subclauses which are additional to those in Part 1 are numbered starting from 101. Additional annexes are numbered AA, BB, etc.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 60127-7:2013 was approved by CENELEC as a European Standard without any modification.

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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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-21 + corr. January	2006 2012	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
IEC 60127-6 + A1 + A2	1994 1996 2002	Miniature fuses - Part 6: Fuse-holders for miniature cartridge fuse-links	EN 60127-6 + A1 + A2	1994 1996 2003
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60695-2-12	2010	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials	EN 60695-2-12	2010
IEC 60695-2-13 + corr. February	2010 2012	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials	EN 60695-2-13	2010
IEC 60695-4	2012	Fire hazard testing - Part 4: Terminology concerning fire tests for electrotechnical products	EN 60695-4	2012
IEC 61249-2-7	2002	Materials for printed boards and other interconnecting structures - Part 2-7: Reinforced base materials, clad and unclad - Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad	EN 61249-2-7 + corr. September	2002 2005
ISO 3	1973	Preferred numbers - Series of preferred numbers	-	-

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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 containing general requirements need not be repeated.

The IEC 60127 series, under the general heading *Miniature fuses*, is thus subdivided as follows:

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*

MINIATURE FUSES –

Part 7: Miniature fuse-links for special applications

1 Scope

This part of IEC 60127 covers requirements for miniature fuse-links for special applications.

It does not apply to fuses completely covered by the subsequent parts of IEC 60269-1.

It does not apply to miniature 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.

This standard is applicable to fuse-links with a rated voltage not exceeding 1000 V, a rated current not exceeding 20 A and a rated breaking capacity not exceeding 50 kA.

Miniature fuse-links for special applications are not intended to be replaced by the end-user of an electrical / electronic appliance.

The object of this standard is to establish uniform test methods for miniature fuse-links for special applications, so as to allow verification of the values (for example melting time and breaking capacity values) specified by the manufacturer.

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 60068-2-21:2006, *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*

IEC 60127-6:1994, *Miniature fuses – Part 6: Fuse-holders for miniature cartridge fuse-links*
Amendment 1:1996
Amendment 2:2002

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60695-2-12:2010, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials*

IEC 60695-2-13:2010, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials*

IEC 60695-4:2012, *Fire hazard testing – Part 4: Terminology concerning fire tests for electrotechnical products*

IEC 61249-2-7:2002, *Materials for printed boards and other interconnecting structures – Part 2-7: Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad*

ISO 3:1973, *Preferred numbers – Series of preferred numbers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in Clause 3 of IEC 60127-1:2006, except 3.5, as well as the following apply.

3.1

miniature fuse-link for special applications

enclosed fuse-link which is not covered in IEC 60127-2, IEC 60127-3 or IEC 60127-4 and of rated breaking capacity not exceeding 50 kA, with a width and height not exceeding 12 mm and a length not exceeding 50 mm

Note 1 to entry: Special precautions may be necessary to ensure that the fuse-links will be replaced by a fuse-link with the same technical parameters.

3.2

t_1 to t_8

limit values for time/current characteristic

3.3

I_{70}

test current for testing at elevated temperature of 70 °C

Note 1 to entry: Preferred values are 0,8 I_N or 1,0 I_N or 1,1 I_N .

3.4

$I_{\text{test}}(\text{A})$

test current for endurance testing according to method A

Note 1 to entry: Preferred values are 1,0 I_N or 1,05 I_N or 1,2 I_N .

3.5

$I_{\text{test}}(\text{B})$

test current for endurance testing according to method B

Note 1 to entry: Preferred values are 0,8 I_N or 1,0 I_N .

3.6

$I_{\text{OVL}}(\text{A})$

test current for measuring the maximum sustained dissipation according to method A

Note 1 to entry: Preferred values are 1,25 I_N or 1,35 I_N or 1,5 I_N .

3.7

$I_{\text{OVL}}(\text{B})$

test current for measuring the maximum sustained dissipation according to method B

Note 1 to entry: Preferred values are 1,0 I_N or 1,25 I_N .

4 General requirements

Clause 4 of IEC 60127-1:2006 applies.