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Low-voltage fuses - Part 4-1: Supplementary requirements for fuse-links for the protection of semiconductor devices - Sections I to III: Examples of types of standardized fuse-links (IEC 60269-4-1:2002)

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English version

**Low-voltage fuses**  
**Part 4-1: Supplementary requirements for fuse-links**  
**for the protection of semiconductor devices -**  
**Sections I to III: Examples of types of standardized fuse-links**  
(IEC 60269-4-1:2002)

Fusibles basse tension

Partie 4-1: Prescriptions supplémentaires  
concernant les éléments de remplacement  
utilisés pour la protection des dispositifs  
à semi-conducteurs -

Sections I à III: Exemples d'éléments  
de remplacement normalisés  
(CEI 60269-4-1:2002)

Niederspannungssicherungen

Teil 4-1: Zusätzliche Anforderungen  
an Sicherungseinsätze zum Schutz  
von Halbleiter-Bauelementen -  
Hauptabschnitte I bis III: Beispiele

für genormte Typen der Sicherungseinsätze  
(IEC 60269-4-1:2002)

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This European Standard was approved by CENELEC on 2002-05-01. 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.

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CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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

The text of document 32B/387/FDIS, future edition 1 of IEC 60269-4-1, prepared by SC 32B, Low-voltage fuses, of IEC TC 32, Fuses, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60269-4-1 on 2002-05-01.

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) 2003-02-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-05-01

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### Endorsement notice

The text of the International Standard IEC 60269-4-1:2002 was approved by CENELEC as a European Standard without any modification.

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CEI  
IEC

60269-4-1

Première édition  
First edition  
2002-01

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**Fusibles basse tension –**

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éléments de remplacement utilisés pour la  
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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## LOW-VOLTAGE FUSES –

**Part 4-1: Supplementary requirements for fuse-links  
for the protection of semiconductor devices –  
Sections I to III: Examples of types of standardized fuse-links**

## FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60269-4-1 has been prepared by subcommittee 32B: Low-voltage fuses, of IEC technical committee 32: Fuses.

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

FDIS	Report on voting
32B/387/FDIS	32B/393/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.

<https://standards.iteh.ai/catalog/standards/sist/41f02be8-485a-40ac-8b8e-afa3eccb59ad/sist-en-60269-4-1-2003>

The committee has decided that the contents of this publication will remain unchanged until 2006-04. At this date, the publication will be

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



## LOW-VOLTAGE FUSES –

### Part 4-1: Supplementary requirements for fuse-links for the protection of semiconductor devices – Sections I to III: Examples of types of standardized fuse-links

Explanatory note – In view of the fact that this standard should be read together with IEC 60269-1 and 60269-4, the numbering of its clauses and subclauses is made to correspond to the latter.

#### 1 General

Fuse-links for the protection of semiconductor devices according to the following sections shall comply with all subclauses of

- IEC 60269-1: *Low-voltage fuses – Part 1: General requirements*; and
- IEC 60269-4: *Low-voltage fuses – Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices*

and shall comply with the requirements laid down in the relevant sections.

This standard is divided into three sections, each dealing with specific examples of standardized dimensions.

Section I: Fuse-links having bolted connections

Type A

Type B

Type C

Section II: Fuse-links with flush end connections

Type A

Type B

Section III: Fuse-links with cylindrical contact caps

Type A

This standard covers dimensional systems but does not standardize characteristics.

Fuse-links for the protection of semiconductor devices may also have the same dimensions as fuse-links to:

- IEC 60269-2-1: Section I [SIST EN 60269-4-1:2003](https://standards.iteh.ai/catalog/standards/sist/41f02be8-485a-40ac-8b8e-afa3eccb59ad/sist-en-60269-4-1-2003)
- IEC 60269-2-1: Section III [SIST EN 60269-4-1:2003](https://standards.iteh.ai/catalog/standards/sist/41f02be8-485a-40ac-8b8e-afa3eccb59ad/sist-en-60269-4-1-2003)
- IEC 60269-3-1: Section I

In addition to meeting the requirements of IEC 60269-4, the power dissipation of the fuse-link shall not exceed the power acceptance of the associated fuse bases or fuseholders. Where the power dissipation of the fuse-link exceeds the power acceptance of the standardized fuse base or fuseholder, de-rating values shall be given by the manufacturer.

## Section IA – Fuse-links with bolted connections, type A

### 1.1 Scope

The following supplementary requirements apply to fuse-links having bolted connections, whose dimensions comply with the requirements given in figures 1(IA) to 3(IA) of this section. Their rated voltages and currents are as follows:

- 230 V a.c. up to 900 A;
- 690 V a.c. up to 710 A.

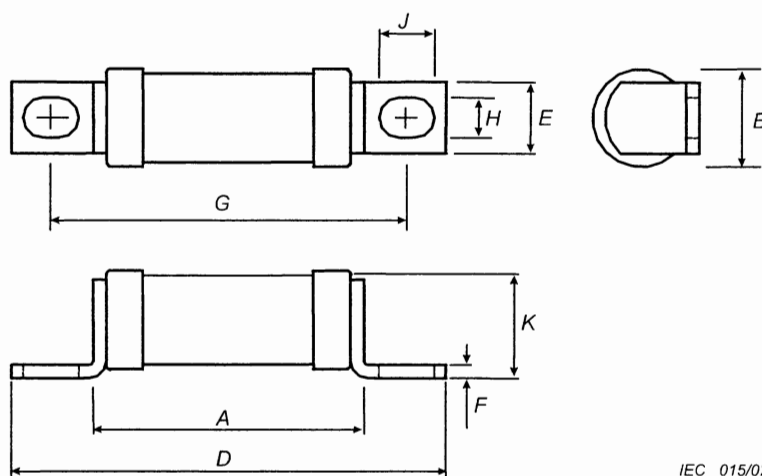
## 7 Standard conditions for construction

### 7.1 Mechanical design

The standardized dimensions of the fuse-links are given in figures 1(IA) to 3(IA).

#### 7.1.7 Construction of a fuse-link

For indication of operation a trip indicator fuse-link may be used in parallel with the fuse-links. The standardized dimensions of the indicating fuse-links are given in figure 4(IA).

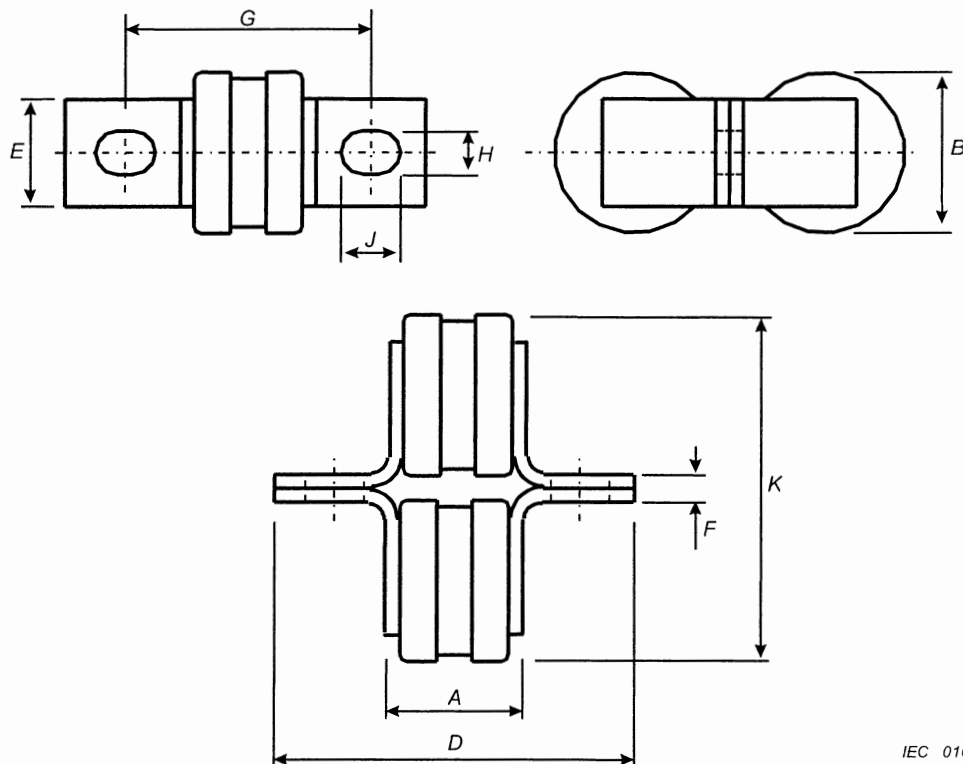


IEC 015/02

Dimensions in millimetres

Typical voltage rating V	Typical maximum current rating A	A max.	B max.	D max.	E nom.	F max.	G nom.	H nom.	J min.	K max.
230	20	29	8,7	47,6	6,4	0,9	38	4	4,8	8,8
690	20	55	8,7	75	6,4	0,9	64,5	4	4,8	8,8
230	180	29,2	17,7	58,4	12,7	2,5	42	6,4	7,9	19,3
690	100	50,6	17,7	79,8	12,7	2,5	63,5	6,4	7,9	19,3
230	450	32,6	38,2	85	25,4	3,3	59	10,3	13	41,5
690	355	60	38,2	114	25,4	3,3	85	10,3	13	41,5

Figure 1 (IA) – Single body fuse-links



IEC 016/02

Dimensions in millimetres

Typical voltage rating V	Typical maximum current rating A	A max.	B max.	D max.	E nom.	F nom.	G nom.	H nom.	J min.	K max.
230	900	32,6	38,2	85	25,4	6,4	59	10,3	13	83
690	710	60	38,2	114	25,4	6,4	85	10,3	13	83

Figure 2 (IA) – Double body fuse-links

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