

IEC standardization of low-voltage fuses

Low-voltage fuses are standardized in IEC 60269, a series of standards of the International Electrotechnical Commission. The structure of this series of standards changed in 2006. The changes performed, the situation today and future changes shall be explained here.

1 Structure of IEC 60269 and connected standards until November 2006

Until November 2006 IEC 60269 consisted of the following parts

IEC 60269-1 (Edition 3.1)

Low-voltage fuses -
General requirements

IEC 60269-2 (Edition 2)

Low-voltage fuses -
Part 2:

Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)

IEC 60269-2-1 (Edition 4)

Low-voltage fuses -
Part 2-1:

Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)

Sections I to VI: Examples of types of standardized fuses

IEC 60269-3 (Edition 2)

Low-voltage fuses -
Part 3:

Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications)

IEC 60269-3-1 (Edition 2)

Low-voltage fuses -
Part 3-1:

Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications)

Sections I to IV: Examples of types of standardized fuses

IEC 60269-4 (Edition 3)

Low-voltage fuses -
Part 4:

Supplementary requirements for fuse-links for the protection of semiconductor devices

IEC 60269-4-1 (Edition 2)

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 fuses

In this structure IEC 60269-1 showed the general requirements. The parts -2, -3 and -4 defined the special requirements for industrial, household and semiconductor protection applications. Parts -2-1, -3-1 and -4-1 included examples of standardized systems in these categories.

To use the standards always three documents had to be read together:

For industrial fuses:

IEC 60269-1
IEC 60269-2
IEC 60269-2-1

For household fuses:

IEC 60269-1
IEC 60269-3
IEC 60269-3-1

For semiconductor protection fuse-links:

IEC 60269-1
IEC 60269-4
IEC 60269-4-1

Two additional application guides exist:

IEC 61459 (Edition 1)

Low-voltage fuses -
Coordination between fuses and contactors/motor-starters -
Application guide

IEC 61818 (Edition 1)

Low-voltage fuses -
Application guide for low-voltage fuses

2 Structure of IEC 60269 and connected standards from November 2006 until today

The new editions of the parts of IEC 60269 were re-arranged in order to simplify their utilization. The following parts exist:

IEC 60269-1 (Edition 4)

Low-voltage fuses -
General Requirements

IEC 60269-2 (Edition 3)

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 I

IEC 60269-3 (Edition 3)

Low-voltage fuses -

Part 3:

Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications)

Examples of standardized systems of fuses A to F

IEC 60269-4 (Edition 4)

Low-voltage fuses -

Part 4:

Supplementary requirements for fuse-links for the protection of semiconductor devices

Now only two levels of standards exist. IEC 60269-1 shows the general requirements; the parts -2, -3 and -4 define the special requirements for industrial, household and semiconductor protection applications

To use the standards now only two documents have to be read together:

For industrial fuses:

IEC 60269-1

IEC 60269-2

For household fuses:

IEC 60269-1

IEC 60269-3

For semiconductor protection fuse-links:

IEC 60269-1

IEC 60269-4

Today the two additional application guides still exist, but also here changes are planned.

IEC 61459 (Edition 1)

Low-voltage fuses -

Coordination between fuses and contactors/motor-starters -

Application guide

IEC 61818 (Edition 1)

Low-voltage fuses -

Application guide for low-voltage fuses

3 Future changes on the structure of IEC 60269 and connected standards

The IEC sub-committee responsible for low-voltage fuse has decided to combine the two application guides into one document and also to rename it to IEC 60269-5 to show the connection to the IEC 60269 series of standards.

IEC 60269-5 (in preparation)

Low-voltage fuses

Part 5:

Guidance for the application of low-voltage fuses.

The new application guide is expected for publication in 2008.

This publication will then complete the process of restructuring of the complete IEC 60269 series of standards.

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15.03.2007