IEEE Standard Specifications for High-Voltage (>1000 V) Expulsion and Current-Limiting Power Class Fuses and Fuse Disconnecting Switches

IEEE Power & Energy Society

Sponsored by the
Switchgear Committee

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Abstract: Specifications for high-voltage (above 1000 V) expulsion and current-limiting type power class fuses, fuse disconnecting switches, their associated fuse links, disconnecting cutouts, and accessories for these devices are covered. All of these devices are intended for use on alternating-current distribution systems.
Keywords: distribution class fuses, distribution fuse cutouts, expulsion fuses, fuse, fuse applications, fuse disconnecting switches, fuse links, high-voltage fuses

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

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Introduction

This introduction is not part of IEEE Std C37.46-2010, IEEE Standard Specifications for High-Voltage (>1000 V) Expulsion and Current-Limiting Power Class Fuses and Fuse Disconnecting Switches.

This standard is a revision of ANSI C37.46-2000, to bring it up to date and in line with present day requirements for high-voltage expulsion and current-limiting power class fuses, fuse links and fuse disconnecting switches. This standard was previously developed by the NEMA High Voltage Fuse Technical Committee. As of 2003 the responsibility for this standard has been transferred to the IEEE High-Voltage Fuse Subcommittee. Liaison was maintained with the International Electrotechnical Commission (IEC) during the development of the revisions in order to incorporate the latest thinking up to the time of publication.

The Switchgear Committee of the IEEE Power & Energy Society has recently sponsored the published standard IEEE Std C37.100.1™-2007, IEEE Standard of Common Requirements for High Voltage Power Switchgear Rated Above 1000 V [B5].[a] Although IEEE Std C37.100.1-2007 [B5] is not specifically cited in this document, any information that may apply to fuse devices has been incorporated.

This standard is one of a series of complementary standards covering various types of high-voltage fuses and switches, arranged so that certain standards apply to all devices while other standards provide additional specifications for a particular device. For any device, IEEE Std C37.40™ and IEEE Std C37.41™-2008, plus an additional specification standard covering that device, constitute a complete set of standards for the device.[b] In addition, IEEE Std C37.48™ provides application, operation, and maintenance guidance for all the devices, and is supplemented by IEEE Std C37.48.1™, which is an operation, classification, application, and coordination guide for current-limiting fuses.

At the time this standard was approved, this series was comprised of the following standards:

ANSI C37.47, Specifications for High Voltage Current-Limiting Type Distribution Class Fuses and Fuse Disconnecting Switches.

IEEE Std C37.40™, IEEE Standard Service Conditions and Definitions for High-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories.

IEEE Std C37.41-2008™, IEEE Standard Design Tests for High-Voltage (>1000 V) Fuses, Fuse and Disconnecting Cutouts, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Fuse Links and Accessories Used with These Devices.

IEEE Std C37.42™, IEEE Standard Specifications for High-Voltage (> 1000 V) Expulsion-Type Distribution-Class Fuses, Fuse and Disconnecting Cutouts, Fuse Disconnecting Switches, and Fuse Links, and Accessories Used with These Devices.

IEEE Std C37.43™, IEEE Standard Specifications for High-Voltage Expulsion, Current-Limiting, and Combination-Type Distribution and Power Class External Fuses, with Rated Voltages from 1 kV through 38 kV, Used for the Protection of Shunt Capacitors.

IEEE Std C37.45™, IEEE Standard Specifications for High-Voltage Distribution Class Enclosed Single-Pole Air Switches with Rated Voltages from 1 kV through 8.3 kV.

[a] The numbers in brackets correspond to those of the bibliography in Annex A.

[b] Information on normative references can be found in Clause 2.

IEEE Std C37.46™, IEEE Standard Specifications for High-Voltage (>1000 V) Expulsion and Current-Limiting Power Class Fuses and Fuse Disconnecting Switches.

IEEE Std C37.48™, IEEE Guide for Application, Operation, and Maintenance of High-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories.

IEEE Std C37.48.1™, IEEE Guide for the Operation, Classification, Application and Coordination of Current-Limiting Fuses with Rated Voltages from 1–38 kV.

NOTE—ANSI C37.47-2000 was developed by NEMA. The responsibility for maintaining this document has been passed to IEEE, and the document will be designated "IEEE Std C37.47™" at its next revision.

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Frank J. Muench, *Secretary*

Chris Ambrose
Glenn R. Borchardt
Sam Chang
Dan Gardner
Gary W. Haynes
Frank Ladonne
Frank C. Lambert
John G. Leach
James R Marek
Sean Moody
Donald Parker
R. Neville Parry
Timothy E. Royster
John S. Schaffer
Alan Yerges
Jan A. Zawadzki

The following members of the individual balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

William J. Ackerman
S.Aggarwal
Chris Ambrose
Robert Barnett
Steven Bezner
William Bloethe
Glenn R. Borchardt
Chris Brooks
Eldridge Byron
Gary L. Donner
Randall Dotson
Dana Dufield
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Tanuj Khandelwal
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G. Luri
Daleep Mohla
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Daniel Mulkey
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T. Olsen
Lorraine Padden
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R. Neville Parry
Iulian Profir
Michael Roberts
Timothy E. Royster
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Gil Shultz
James Smith
Jerry Smith
Mark W. Stavnes
Gary Stoedter
James Swank
John Vergis
Waldemar [illegible] Miller
William [illegible] Walt
Janusz Zawadzki

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Richard DeBlasio, *DOE Representative*
Michael Janezic, *NIST Representative*

Lisa Perry
IEEE Standards Program Manager, Document Development

Matthew J. Ceglia
IEEE Standards Program Manager, Technical Program Development

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1. Overview

1.1 Scope

This standard establishes specifications for high-voltage (above 1000 V) expulsion and current-limiting type power class fuses, and accessories. All of these devices are intended for use on alternating current systems. These specifications apply to the following specific types of equipment:

a) Power class expulsion-type fuses

b) Power class current-limiting type fuses

c) Power class fuse disconnecting switches

d) Item a) through item c) used in fuse-enclosure packages (FEPs)

e) Fuse supports, fuse holders, fuse hooks, fuse units, and refill units, of the type intended for use with power class fuses and fuse disconnecting switches

f) Disconnecting devices created by the use of a removable switch blade in a power class fuse support

g) Fuse links when used exclusively with power class fuses and fuse disconnecting switches