

American National Standard

guide for calculation of
fault currents for application of
ac high-voltage circuit breakers
rated on a total current basis

ANSI/IEEE C37.5-1979



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An American National Standard

**IEEE Guide for
Calculation of Fault Currents for
Application of AC High-Voltage
Circuit Breakers Rated on a Total Current Basis**

Sponsor
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IEEE Power Engineering Society

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Foreword

(This Foreword is not a part of ANSI/IEEE C37.5-1979, Guide for Calculation of Fault Currents for Application of AC High-Voltage Circuit Breakers Rated on a Total Current Basis.)

This guide is a revision of ANSI C37.5-1969 and represents standard practices in the US relating to ac high-voltage circuit breakers and is one of a series of American National Standards on this subject. It contains data secured from many sources, notably the Institute of Electrical and Electronics Engineers, the National Electrical Manufacturers Association, and the Association of Edison Illuminating Companies. This standard was first published in proposed form in January 1941, for trial-use and study. On the basis of suggestions received during this trial period, particularly from the Protective Devices Committee of the IEEE, the proposed standard was revised and issued as an approved American National Standard in 1945, updated in 1953 and 1969 and has now been revised by the IEEE Switchgear Committee, to conform with current practices. This revised guide applies to all circuit breakers rated on a total current basis designed and tested in conformance with present and prior issues of C37.4, C37.6, and C37.9. The sections on determination of a sinusoidal current wave, and normal-frequency recovery voltage have not been retained in ANSI/IEEE C37.5-1979 since they are now part of ANSI/IEEE C37.09-1979, (Consolidated edition). The calculation of fault currents has been revised to take advantage of experience in using ANSI/IEEE C37.010-1979 which substantially improved the ease and accuracy of calculating short circuit currents. ANSI/IEEE C37.5 is a guide for short circuit current calculation for breakers rated on a total current basis. Short circuit current calculations for symmetrical current basis rated breakers must be made in accordance with ANSI/IEEE C37.010-1979.

This guide is one of a series of related American National Standards for circuit breakers rated on a total current basis:

ANSI C37.4-1953 (R 1971)	Definitions and Rating Structure for AC High Voltage Circuit Breakers Rated on a Total Current Basis
ANSI C37.6-1971	Schedules of Preferred Ratings for Power Circuit Breakers
ANSI C37.7-1960 (R 1971)	Interrupting Rating Factors for Reclosing Service Power Circuit Breakers
ANSI C37.8-1952 (R 1966)	Rated Control Voltages and Their Ranges for Power Circuit Breakers
ANSI C37.9-1953 (R 1966)	Test Code for Power Circuit Breakers
ANSI C37.11-1972	Requirements for Power Circuit Breaker Control
ANSI C37.12-1969	Guide Specifications for Alternating-Current Power Circuit Breakers

The Standards Committee on Power Switchgear, C37, which reviewed and approved this standard, had the following personnel at the time of approval:

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