



**CSA
Group**

C22.2 No. 5-13

Molded-case circuit breakers, molded-case switches, and circuit-breaker enclosures

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CSA Group
CSA C22.2 No. 5-13
Third Edition



Underwriters Laboratories Inc.
UL 489
Twelfth Edition

Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures

January 15, 2013



ANSI/UL 489-2013

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Preface

This is the harmonized ANCE, CSA Group, and UL Standard for Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures. It is the fourth edition of NMX-J-266-ANCE, the third edition of CSA C22.2 No. 5, and the twelfth edition of UL 489. This edition of CSA C22.2 No. 5 supersedes the previous edition published in 2009. This harmonized standard has been jointly revised on January 15, 2013. For this purpose, ANCE, CSA and UL are issuing a new edition dated January 15, 2013.

This harmonized standard was prepared by the Association of Standardization and Certification (ANCE), CSA Group, and Underwriters Laboratories Inc. (UL). The efforts and support of the CANENA Technical Harmonization Committee are gratefully acknowledged.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

The present Mexican Standard was developed by the CT CDI Control y Distribución Industrial from the Comité de Normalización de la Asociación de Normalización y Certificación A.C., CONANCE, with the collaboration of the circuit breaker manufacturers and users.

This standard was reviewed by the CSA Subcommittee on Molded Case Circuit Breakers under the jurisdiction of the CSA Technical Committee on Industrial Products and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee.

This standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

Level of harmonization

This standard uses the IEC format but is not based on, nor is it considered equivalent to, an IEC standard. This standard is published as an equivalent standard for ANCE, CSA Group, and UL.

An equivalent standard is a standard that is substantially the same in technical content, except as follows: Technical national differences are allowed for codes and governmental regulations as well as those recognized as being in accordance with NAFTA Article 905, for example, because of fundamental climatic, geographical, technological, or infrastructural factors, scientific justification or the level of protection that the country considers appropriate. Presentation is word for word except for editorial changes.

Reasons for differences from IEC

This standard provides requirements for molded-case circuit breakers, molded-case switches, and circuit-breaker enclosures for use in accordance with the electrical installation codes of Canada, Mexico, and the United States. At present there is no IEC standard for these products for use in accordance with these codes. Therefore, this standard does not employ any IEC standard for base requirements.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

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UL effective date

As of January 15, 2013, all products Listed or Recognized by UL must comply with the requirements in this standard except for clauses, figures and tables in the following list, which are effective January 15, 2017:

9.1.1.22, 18.1.13, SD4.1, SD4.2, SD4.3, and Figure 7.1.7.1

Between January 15, 2013 and January 15, 2017, new product submittals to UL may be evaluated under all requirements in this standard or, if requested in writing, evaluated under presently effective requirements only. The presently effective requirements are contained in the superseded requirements of this standard.

A UL effective date is one established by Underwriters Laboratories Inc. and is not part of the ANSI approved standard.

INTRODUCTION

1 Scope

1.1 The requirements of this standard cover molded-case circuit breakers, circuit breaker and ground-fault circuit-interrupters, fused circuit breakers, high-fault protectors, and high-fault modules. These circuit breakers are specifically intended to provide service entrance, feeder, and branch circuit protection in accordance with the National Installation Codes in Annex B, Ref. No.1. This standard also covers instantaneous-trip circuit breakers (circuit interrupters) specifically intended for use as part of a combination motor controller in accordance with the National Installation Codes in Annex B, Ref. No. 1.

1.2 This standard covers molded-case switches and fused molded-case switches.

1.3 This standard covers devices rated at 600 volts or less and 6000 amperes or less.

1.4 The devices referenced in 1.1 and 1.2 are intended for installation in an overall enclosure or as parts of other devices such as panelboards. The acceptability of the combination will be determined when the complete product is investigated.

1.5 This standard covers circuit-breaker enclosures and accessory devices intended for use with the devices described in 1.1 and 1.2.

1.6 This standard does not cover low-voltage power circuit breakers covered in Annex B, Ref. No. 3 and Ref. No. 4 or supplementary protectors covered in Annex B, Ref. No. 5.

1.7 This standard contains supplements covering the requirements for molded-case circuit breakers for:

- a) Marine Use;
- b) Naval Use;
- c) Uninterruptible Power Supply Use;
- d) Classified Circuit Breakers; and
- e) Software in Programmable Components.

2 Definitions

2.1 For the purposes of this standard, the following definitions apply.

2.2 ACCESSORIES – a device or devices that perform a secondary or minor duty as an adjunct or refinement to the primary or major duty of a molded case product.

2.3 ADJUSTABLE CIRCUIT BREAKER – a circuit breaker that has adjustable time/current tripping characteristics. These may include:

- a) Inverse-time (such as continuous current, long time, and/or short time);
- b) Instantaneous; and
- c) Ground-fault.