

Enclosed and dead-front switches



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Enclosed and dead-front switches



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Preface

This is the harmonized ANCE, CSA Group, and UL standard for *Enclosed and Dead-Front Switches*. It is the Fourth edition of NMX-J-162-ANCE, the Eighth edition of CSA C22.2 No. 4, and the Fourteenth edition of UL 98. This harmonized standard has been jointly issued February 12, 2016.

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 Technical Harmonization Committee for Enclosed Switches, of the Council on the Harmonization of Electrotechnical Standards of the Nations of the Americas (CANENA), are gratefully acknowledged.

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

This standard was reviewed by the CSA Subcommittee on Enclosed and Dead-Front Switches, 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 shall 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

The THC determined the safe use of enclosed and dead-front switches is dependent on the design and performance of the products in relation to the North American Electrical Codes with which they are intended to be installed.

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.

1 Scope

1.1 These requirements cover individually enclosed air switches, rated 4000 A or less at 600 V or less, having all current-carrying parts enclosed, manually operable by means of external handles, and intended to be employed in accordance with the national installation codes listed in Annex A, Ref. No. 1.

1.2 As used in this Standard, the term switch is intended to mean an enclosed switch or deadfront switch unless specifically stated otherwise.

1.3 These requirements also cover deadfront switches that have all current-carrying parts enclosed when mounted in an enclosed panelboard, deadfront switchboard, or the like. These switches are manually operable by means of external handles and are intended to be employed in accordance with the national installation codes listed in Annex A, Ref. No. 1.

1.4 These requirements cover enclosed switches with or without provision for fuses suitable for use as branch circuit, feeder, and service overcurrent protection.

1.5 The following fuses are deemed suitable for use as branch circuit, feeder, and service overcurrent protection:

- a) Cartridge Fuses (Ref. Annex B, Low-Voltage Fuses – Parts 1 – 10, 12 and 15),
- b) Plug Fuses (Ref. Annex B, Low-Voltage Fuses – Parts 1 and 11), and
- c) Special Purposes Fuses marked as meeting the performance specifications of a specific Class Fuse.

1.6 These requirements cover enclosed switches intended for general use and having ampere ratings, with or without horsepower or kilowatt ratings, and enclosed switches intended for motor-circuit use only and having horsepower or kilowatt ratings but no general-use ampere ratings.

1.7 These requirements cover double-throw switches intended for use in optional standby systems (see Annex A, Ref. No. 1).

1.8 These requirements cover fused electrically tripped switches rated over 600 A and rated 600 A or less employing Class J, R or T fuses.

1.9 These requirements also cover electrically tripped switches that have been investigated to determine their acceptability for ground-fault protection when combined with ground-fault sensing and relaying equipment as follows:

- a) Switches for use with Class I ground-fault sensing and relaying equipment include those that are capable of interrupting 12 times their rated current or that have integral means to prevent disconnecting at levels of fault current exceeding the contact interrupting capability of the switch.
- b) Switches for use with Class II ground-fault sensing and relaying equipment are capable of interrupting 10 times their rated current and are for use in ground-fault protection systems in which means to prevent disconnecting at levels of fault current exceeding the contact interrupting capability of the switch are incorporated within the ground-fault sensing and relaying equipment when combined with Class I and II ground-fault sensing and relaying equipment.