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National Standard of Canada
(reaffirmed 2019)



Motor Control Centres



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Second Edition

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CSA Group
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First Edition



Underwriters Laboratories Inc.
UL 845
Fifth Edition

Motor Control Centers

August 31, 2005

(Title Page Reprinted: October 31, 2018)



ANSI/UL 845-2018

Commitment for Amendments

This standard is issued jointly by the Association of Standardization and Certification (ANCE), the Canadian Standards Association (CSA), and Underwriters Laboratories Inc. (UL). Comments or proposals for revisions on any part of the standard may be submitted to ANCE, CSA, or UL at any time. Revisions to this standard will be made only after processing according to the standards development procedures of ANCE, CSA, and UL. CSA and UL will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue. ANCE will incorporate the same revisions into a new edition of the standard bearing the same date of issue as the CSA and UL pages.

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The most recent designation of ANSI/UL 845 as an American National Standard (ANSI) occurred on August 1, 2005.

This ANSI/UL Standard for Safety, which consists of the Fifth edition, is under continuous maintenance, whereby each revision is ANSI approved upon publication. Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <http://csds.ul.com>.

The Department of Defense (DoD) has adopted UL 845 on April 20, 1993. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

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Preface

This is the common ANCE, CSA, and UL standard for motor control centres. It is the second edition of NMX-J-353-ANCE, the first edition of CSA C22.2 No. 254, and the fifth edition of UL 845. This edition of UL 845 supersedes the previous edition published on February 15th, 1995.

This common standard was prepared by the Association of Standardization and Certification (ANCE), the Canadian Standards Association (CSA), and Underwriters Laboratories Inc. (UL). The efforts and support of the CANENA Technical Harmonization Subcommittee 17D — Motor Control Centres are gratefully appreciated.

The present Mexican standard was developed by the CT CDI Control y Distribucion Industrial from the Comite de Normalizacion de la Asociacion de Normalizacion y Certificacion, A.C., CONANCF with the collaboration of the motor control centres, manufacturers, and users.

This standard was reviewed by the CSA Subcommittee on Motor Control Centres, 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 will be submitted to the Standards Council of Canada (SCC) for approval as a National Standard of Canada. This standard has been approved as an American National Standard by the American National Standards Institute (ANSI).

A UL standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements.

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 is published as an identical standard for ANCE, CSA, and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

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.

ANCE effective date

The effective date for ANCE will be announced through the Diario Oficial de la Federación (Official Gazette) and is indicated on the cover page.

CSA effective date

The effective date for CSA International will be announced through CSA Informs or a CSA certification notice.

UL effective date

As of August 31, 2005 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 August 31, 2007.

Clauses 5.4.2, 6.3.30.1–6.3.30.3, 6.3.50, 8.1.2.1, 8.1.7.1, and 8.2.4.5.

Between August 31, 2005 and August 31, 2007, 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 fourth edition of UL 845.

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

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Motor Control Centres

1 Scope

1.1 Products covered

1.1.1 This standard applies to motor control centres to be used in accordance with the U.S. *National Electrical Code*, ANSI/NFPA 70, the *Canadian Electrical Code, Part I*, CSA C22.1, and the Mexican *Electrical Installations (Utility)*, NOM-001-SEDE.

1.1.2 These requirements cover motor control centres for use on circuits having available short-circuit currents not more than 200 000 A rms symmetrical or 200 000 A dc.

1.1.3 This standard applies to single- and three-phase 50 and 60 Hz and dc motor control centres rated not more than 600 V ac or 1 000 V dc.

1.1.4 Requirements for fire pump controllers are as provided in Annex C, item 11.

1.2 Products not covered

These requirements do not cover switchboards or panelboards intended for the control of electric light and power circuits, nor do they cover an individual unit for this purpose. Such units, however, that consist of manually or automatically operated switches, branch-circuit or service-circuit circuit-breakers, overcurrent-protective devices, or the like may be used within a motor control centre.

1.3 Equipment

1.3.1 A motor control centre can contain, but is not limited to, any combination of equipment such as the following:

- (a) full-voltage reversing or non-reversing combination motor control units;
- (b) full-voltage multispeed combination motor control units;
- (c) reduced-voltage part-winding, wye-delta or auto-transformer combination motor control units;
- (d) solid-state industrial controllers, such as adjustable-speed drives, programmable controllers, protective relays, and the like;
- (e) lighting or distribution panelboards;
- (f) feeder-tap units;
- (g) incoming-line equipment, such as main lugs, fusible switch, isolation switch, or circuit-breaker;
- (h) control or lighting transformers;
- (i) special equipment assemblies;
- (j) combination contactor units.

1.3.2 The foregoing equipment can contain, but is not limited to, such items as pushbuttons, selector switches, indicating lights, control transformers, control circuit fuses, and auxiliary devices incorporated as an integral part of the units.