



NECA 402-2020

AN AMERICAN NATIONAL STANDARD



Standard for

Installing and Maintaining Motor Control Centers

Published by
National Electrical
Contractors Association



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(This foreword is not a part of the standard)

Foreword

National Electrical Installation Standards (NEIS) are designed to improve communication among specifiers, purchasers, and suppliers of electrical construction services. They define a minimum baseline of quality and workmanship for installing electrical products and systems. NEIS are intended to be referenced in contract documents for electrical construction projects. The following language is recommended:

Motor control centers shall be installed and maintained in accordance with NECA 402, *Standard for Installing and Maintaining Motor Control Centers* (ANSI).

Use of NEIS is voluntary, and the National Electrical Contractors Association (NECA) assumes no obligation or liability to users of this publication. Existence of a Standard shall not preclude any member or non-member of NECA from specifying or using alternate construction methods permitted by applicable regulations.

This publication is intended to comply with the National Electrical Code (NEC). Because they are quality standards, NEIS in some instances go beyond the minimum safety requirements of the NEC. It is the responsibility of users of this publication to comply with state and local electrical codes when installing electrical products and systems.

Suggestions for revisions and improvements to this standard are welcome. They should be addressed to:

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1. Scope

1.1 Products and Applications Included

This Standard describes the installation and maintenance procedures for low-voltage motor control centers (MCCs) rated 600 VAC or less with a horizontal bus rating of 2,500 amperes or less.

MCCs may be assembled with factory-installed dry-type transformers and panelboards. The testing and maintenance of such dry-type transformers is addressed in NECA 409, *Standard for Installing and Maintaining Dry-Type Transformers* (ANSI). The testing and maintenance of such panelboards is addressed in NECA 407, *Standard for Installing and Maintaining Panelboards* (ANSI).

1.2 Regulatory and Other Requirements

All information in this publication is intended to conform to the National Electrical Code (ANSI/NFPA 70-2020). Installers shall follow the NEC, applicable state and local Codes, manufacturer instructions, and contract documents when installing and maintaining electrical equipment and systems.

Only qualified persons as defined in the NEC familiar with the construction and installation of electrical power distribution and control systems and equipment shall perform the technical work described in this publication. Administrative functions and other tasks shall be performed under the supervision of a qualified person. All work shall be performed in accordance with NFPA 70E, *Standard for Electrical Safety in the Workplace*.

General requirements for installing electrical products and systems are described in NECA 1, *Standard for Good Workmanship in Electrical Construction* (ANSI). Other NEIS provide additional

guidance for installing particular types of electrical products and systems. A complete list of NEIS is provided in Annex A.

1.3 Mandatory Requirements, Permissive Requirements, Quality, and Performance Recommendations, Explanatory Material, and Informative Annexes

Mandatory requirements in manufacturer instructions, Codes, or other mandatory Standards that may or may not be adopted into law are those that identify actions that are specifically required or prohibited and are characterized in this Standard by the use of the terms “must” or “must not,” “shall” or “shall not,” or “may not,” or “are not permitted,” or “are required,” or by the use of positive phrasing of mandatory requirements. Examples of mandatory requirements may equally take the form of, “equipment must be protected . . .,” “equipment shall be protected . . .,” or “protect equipment . . .,” with the latter interpreted (understood) as “(it is necessary to) protect equipment . . .”

Permissive requirements of manufacturer instructions, Codes, or other mandatory Standards that may or may not be adopted into law are those that identify actions that are allowed but not required or are normally used to describe options or alternative means and methods and are characterized in this Standard by the use of the terms “may,” or “are permitted,” or “are not required.”

Quality and performance instructions identify actions that are recommended or not recommended to improve the overall quality or performance of the installation and are characterized in this Standard by the use of the terms “should” or “should not.”

Explanatory material, such as references to other Codes, Standards, documents, references to related sections of this Standard, information related to another Code, Standard, or document, and supplemental application and design information and data, is included throughout this Standard to expand the understanding of mandatory requirements, permissive requirements, and quality and performance instructions. Such explanatory material is included for information only and is identified by the use of the term “NOTE,” or by the use of italicized text.

Non-mandatory information and other reference Standards or documents relative to the application and use of materials, equipment, and systems covered by this Standard are provided in informative annexes. Informative annexes are not part of the enforceable requirements of this Standard but are included for information purposes only