NECA 700-2016

Standard for Installing

Overcurrent Protection to Achieve Selective Coordination

AN AMERICAN NATIONAL STANDARD

Published by
National Electrical Contractors Association

NECA 700-2016

Standard for

Installing Overcurrent Protection to Achieve Selective Coordination

An American National Standard

Published by
National Electrical
Contractors Association

Revision History	
NECA 700-2010 originally published	03/2010
NECA 700-2016 revised	09/2016

NOTICE OF COPYRIGHT

This document is copyrighted by NECA

ISBN: 978-1-944148-1

OR

National Electrical Contractors Association
3 Bethesda Metro Center, Suite 1100
Bethesda, Maryland 20814
(301) 657-3110

Table of Contents

(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:

> Overcurrent protective devices should be installed in accordance with NECA 700-2016, *Standard for Installing Overcurrent Protection to Achieve Selective Coordination* (ANSI).

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

This publication is not intended as a substitute for qualified design professional. Selective coordination of overcurrent protective devices requires the analysis and comparison of overcurrent protective device time-current characteristics and the available short circuit current within an electrical distribution system, and should be performed under the supervision of qualified individuals, such as by qualified professional engineers.

This publication is intended to comply with the National Electrical Code (NEC). Because they are quality standards, *NEIS* may 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:

NECA Standards & Safety
3 Bethesda Metro Center, Suite 1100
Bethesda, MD 20814
(301) 215-4521
(301) 215-4500 Fax
www.neca-neis.org
neis@necanet.org

To purchase *National Electrical Installation Standards,* contact the NECA Order Desk at (301) 215-4504 tel, (301) 215-4500 fax or *orderdesk@necanet.org. NEIS* can also be purchased in pdf format from *www.neca-neis.org/standards.*

Illustrations and tables provided by:

[1] This material and associated copyrights are proprietary to and used with permission of Schneider Electric.

[2] This material and associated copyrights are proprietary to and used with permission of Cooper Bussman.

1. Scope

This standard describes the application procedures for selecting and adjusting low-voltage overcurrent protective devices to achieve selective coordination.

1.1 Products and Applications Included

This standard covers the installation of low-voltage overcurrent protective devices rated 1000 volts and less, for selective coordination in electrical distribution systems for residential, commercial, and industrial applications. This applies to:

- Low voltage power circuit breakers
- Fuses
- Molded case circuit breakers

1.2 Products and Applications Excluded

This standard does not apply to:

- Overcurrent protective devices rated more than 1000 V
- Protective relays
- Protection of conductors, transformers, motors or other equipment

1.3 Regulatory and Other Requirements

All information in this publication is intended to conform to the *National Electrical Code* (ANSI/NFPA 70). Installers shall follow the NEC, applicable state and local codes, manufacturer instructions, and contract documents when installing overcurrent protective devices.

Only qualified persons as defined in the *National Electrical Code* familiar with the construction, installation, and operation of overcurrent protective devices shall perform the technical work described in this publication. Administrative functions such as receiving, handling, and storing overcurrent protective devices and other tasks may 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 B.

1.4 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 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