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*Instructions for the Handling, Installation, Operation, and Maintenance of
Electric Fire Pump Controllers Rated Not More Than 600V*

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Foreword

This publication was prepared by a technical committee of the National Electrical Manufacturers Association (NEMA) Industrial Control and Systems Section. It was approved in accordance with the bylaws of NEMA.

This installation guide provides practical information concerning the general technical considerations in the installation of electric fire pump controllers. It is intended to be used by specifiers, purchasers, installers, and owners of fire pump controllers.

This installation guide represents the result of many years of research, investigation, and experience by the members of the NEMA Industrial Control and Systems Subcommittee on Fire Pump Control. It was written as a service in response to the many questions from the user public, specifiers, and inspection authorities regarding fire pump controller installations. The intent is to pursue excellence in design, manufacture, and service of products made by NEMA member companies. It has been developed through continuing consultation among manufacturers, users, and national engineering societies. It is not intended to instruct the user of fire pump control equipment except insofar as to provide recommendations and some installation guidance.

This installation guide is necessarily confined to providing recommendations for a successful installation. When equipment conforming with these recommendations is properly selected and is installed in accordance with the *National Electrical Code*[®] (NFPA 70) and the *Standard for the Installation of Stationary Pumps for Fire Protection* (NFPA 20) and properly maintained, the hazards to persons and property will be reduced. However, since any piece of industrial control equipment can be installed, operated, and maintained in such a manner that hazardous conditions may result, following the recommendations of this guide does not by itself ensure a safe installation.

NEMA publications are subject to periodic review. They are revised frequently to reflect user input and to meet changing conditions and technical progress. Users should secure the latest editions.

Proposed revisions to this installation guide should be submitted to:

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Tornatech, Inc.—Laval, QC, Canada

1 General

1.1 Scope

These guidelines are provided to facilitate movement, handling, installation, and maintenance of electric fire pump controllers at the job site and to help avoid personal injury and equipment damage during these processes. Information includes the following:

- a. Handling
- b. Storage
- c. Installation of conduits, cables, and wires
- d. Pre-energization and energization
- e. Care and maintenance
- f. Required field marking

This guide is not intended to replace the manufacturer's instructions and does not purport to cover all possible circumstances arising from the handling, storage, and installation of this equipment. Any problems or questions should be discussed with the manufacturer.

1.2 Reference Publications

NEMA AB 4	<i>Guidelines for Inspection and Preventive Maintenance of Molded-Case Circuit Breakers Used in Commercial and Industrial Applications</i>
NEMA GD 1	<i>Evaluating Water-Damaged Electrical Equipment</i>
NEMA ICS 1	<i>Industrial Control and Systems: General Requirements</i>
NEMA ICS 2	<i>Industrial Control and Systems: Controllers, Contactors and Overload Relays Rated 600 Volts</i>
NEMA ICS 14-2023	<i>Application Guide for Electric Fire Pump Controllers</i>
NFPA 20	<i>Standard for the Installation of Stationary Pumps for Fire Protection</i>
NFPA 25	<i>Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems</i>
NFPA 70	<i>National Electrical Code (NEC)</i>
NFPA 70B	<i>Standard for Electrical Equipment Maintenance</i>
NFPA 70E	<i>Standard for Electrical Safety in the Workplace®</i>

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1.3 Precautions

There is a hazard of electric shock or burns to personnel whenever they are working on or near electrical equipment. Turn off power supplying this equipment before working inside the controller and lock out or