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Application Guide for Ground Fault Protective Devices for Equipment

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Foreword

This Standards Publication is intended to provide a basis of common understanding within the electrical community. User needs have been considered throughout the development of this publication. Proposed or recommended revisions should be submitted to:

Vice President, Technical Services
National Electrical Manufacturers Association
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Section 1
GENERAL

1.1 SCOPE

This publication is a guide of practical information containing instructions for the safe and proper application of ground fault protective devices (hereafter referred to as GFP devices).

GFP devices include current sensing devices (GFS), relaying equipment (GFR), combinations of GFS and GFR equipment, or other equivalent protective equipment that will operate to cause a disconnecting means to open all ungrounded conductors at predetermined values of ground fault current and time. GFP devices are intended to protect equipment only against extensive damage from ground faults.

GFP devices are intended to operate circuit breakers or fusible switches equipped with electrically actuated tripping means. These devices may be supplied as an integral portion of the disconnecting means or as separate devices operating in conjunction with the disconnecting means. GFP devices may or may not require external control power for proper tripping operation.

GFP devices are designed to be used primarily on solidly grounded distribution systems rated up to a maximum of 600 volts ac to provide for rapid clearing of ground faults. The *National Electrical Code®* *(NEC)* requires ground fault protection in certain instances. In other situations, ground fault protection is added at the request of the customer. This application guide does not cover all possible applications of these devices.

GFP systems described in this publication are intended for equipment protection only. They cannot provide protection for personnel. A GFR system designed for protecting equipment cannot protect personnel against electric shock hazards because personnel protective devices, such as ground-fault circuit-interrupters, require a sensitivity in the low milliampere range. The systems used to meet the requirements of Article 230-Services and Article 517-Health Care Facilities of the *NEC* have a sensitivity in the multi-ampere range. *This application guide does not contain information on ground fault protection for personnel (GFCI).*

1.2 REFERENCED STANDARDS

In this publication, reference is made to the standards listed below. Copies are available from the indicated sources.

National Fire Protection Association
Batterymarch Park
Quincy, MA 02269

NFPA 70 *National Electrical Code®*

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, VA 22209

NEMA AB 1 (UL 489) *Molded Case Circuit Breakers and Molded Case Switches*