

American National Standard

for trip devices
for ac and general-purpose dc
low-voltage power circuit breakers

ANSI C37.17-1972



american national standards institute, inc.

**American National Standard
for Trip Devices
for AC and General-Purpose DC
Low-Voltage Power Circuit Breakers**

Secretariat

**Edison Electric Institute
Institute of Electrical and Electronics Engineers
National Electrical Manufacturers Association**

Approved September 26, 1972

American National Standards Institute, Inc

Published by

**Institute of Electrical and Electronics Engineers
345 East 47th Street, New York, N. Y. 10017**

American National Standard

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standard. American National Standards are subject to periodic review and users are cautioned to obtain the latest editions.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of publication. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

© Copyright 1972 by

The Institute of Electrical and Electronics Engineers, Inc.

*No part of this publication may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.*

Foreword

(This Foreword is not a part of American National Standard for Trip Devices for AC and General-Purpose DC Low-Voltage Power Circuit Breakers, C37.17-1972.)

This standard pertains to direct-acting overcurrent, reverse-current, and undervoltage trip devices of both the electromechanical and ac solid-state types integral with low-voltage ac and general-purpose dc power circuit breakers covered by American National Standards. The solid-state direct-acting overcurrent trip devices may include ground trip elements. These direct-acting trip devices are sometimes referred to as "opening releases," especially in IEC (International Electrotechnical Commission) Recommendations or "Specifications."

Four types of direct-acting overcurrent trip devices with pickup and delay settings are described in Sections 5, 6, and 7. Pickup and calibration for reverse-current trip devices (Section 8) and pickup, seal-in, as well as the dropout range of undervoltage devices (Section 9) are also covered. A description of design and production tests including required time bands is included in Section 10. As a guide to the application of these trip devices (opening releases) (Section 11), the user of the standard is referred to the pertinent American National Standards on low-voltage power circuit breakers for more complete understanding of the application of circuit breakers and their trip devices in electric power systems.

This standard may not apply to molded-case circuit breakers but does represent standard practice in the U. S. for low-voltage power circuit breaker types currently covered by the following American National Standards:

Low-Voltage AC Power Circuit Breakers Used in Enclosures, C37.13-1963 (R1969)

Low-Voltage DC Power Circuit Breakers and Anode Circuit Breakers, C37.14-1969

Rated Control Voltage and Their Ranges for Low-Voltage Air Circuit Breakers, C37.15-1954 (R1967)

Preferred Ratings, Related Requirements and Application Recommendations for Low-Voltage Power Circuit Breakers and AC Power Circuit Protectors, C37.16-1970

Safety Requirements for Low-Voltage AC Power Circuit Breakers and Switchgear Assemblies (Excluding Molded-Case Breakers) C37.19-1963

Low-Voltage AC Integrally Fused Power Circuit Breakers, C37.28-1969

This standard supersedes and updates the 1970 publication which was a revision of the 1962 revised edition of the original standard published in 1956, all of which were developed by NEMA. Suggestions for improvement of this standard will be welcome. They should be sent to the American National Standards Institute, 1430 Broadway, New York, N. Y. 10018.

The American National Standards Committee on Power Switchgear, C37, which reviewed and approved this standard, had the following personnel at the time of approval:

Charles L. Wagner, *Chairman*

C. M. Clevenger, *Executive Vice-Chairman of High-Voltage Switchgear Standards*

W. E. Laubach, *Executive Vice-Chairman of Low-Voltage Switchgear Standards*

W. R. Wilson, *Executive Vice-Chairman of IEC Activities*

J. G. Werner, *Secretary*

Organization Represented

Association of Iron and Steel Engineers
Electric Light and Power Group

Name of Representative

T. S. Novak
J. E. Beehler
H. G. Frus
K. D. Hendrix
F. R. Solis
C. D. Stalnaker
R. W. Hudson (*Alt*)
R. H. Knight
J. P. Markey (*Alt*)