

NEMA Standards Publication CP 1-2000 (R2008)

Shunt Capacitors

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Foreword

The requirements in this Standards Publication are intended to reflect the latest standards affecting these products. They are made available as a guide for the manufacturer and to assist the purchaser in selecting and obtaining a suitable product. This Standards Publication applies to capacitors designed for shunt connections to alternating-current power transmission and distribution systems operating at frequencies of 50 or 60 hertz and below. The use of these standards is at the option of the individual manufacturer and the purchaser. It is anticipated that those who utilize them will derive benefit from the advantages of functional interchangeability. To assure a meaningful publication, copies were sent during the draft stage to a number of individuals and organizations in the public and private sector having an interest in or responsibility for the purchase, testing, application, use, or inspection of this product category. The resulting comments and suggestions provided a vital user and general interest input to final NEMA approval and resulted in a number of substantive changes being made in this publication.

This Standards Publication duplicates the requirements of the American National Standard for Shunt Power Capacitors ANSI/IEEE 18-1992. Additional requirements are also covered, but they are not intended to conflict with ANSI/IEEE 18-1992.

These standards are periodically reviewed by the Capacitor Section of NEMA for any revisions necessary to keep them up to date with advancing technology. As future major revisions to this publication are proposed, it is intended to offer to both individuals and organizations in the public and private sector a further opportunity to participate in the development of this publication.

Proposed or recommended revisions should be submitted to:

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At the time of publication, the member companies of the Capacitor Section are as follows:

ABB Inc.—Quebec City, PQ
GE Industrial Systems—Fort Edward, NY
Cooper Power Systems—Franksville, WI

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Section 1 REFERENCED STANDARDS AND DEFINITIONS

1.1 SCOPE

This standard applies to capacitors rated 216 V or higher, 2.5 kVAR or more, and designed for shunt connection to alternating current transmission and distribution systems operating at a nominal frequency of 50 or 60 Hz.

The values stated in U.S. customary units are to be regarded as the standard.

1.2 REFERENCED STANDARDS

American National Standards Institute

11 West 42nd Street
New York, N.Y. 10036

ANSI/IEEE 18-1992	<i>Standard for Shunt Power Capacitors</i>
ANSI/IEEE 100-1992	<i>Dictionary of Electrical and Electronic Terms</i>
ANSI/IEEE 1036-1992	<i>Guide for Application of Shunt Power Capacitors</i>
ANSI C37.30-1998 (IEEE 324-1971)	<i>Definitions and Requirements for High Voltage Air Switches, Insulators and Bus Supports</i>
ANSI/IEEE 21-1976	<i>General Requirements and Test Procedures for Outdoor Apparatus Bushings, Part 1</i>

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ICS 2-1993 (R2000)	Industrial Controls and Systems: <i>Controllers, Contactors and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC</i>
107-1993	<i>Methods of Measurement of Radio Influence Voltage (RIV) of High Voltage Apparatus</i>

National Fire Protection Association

Batterymarch Park
Quincy, MA 02269

NFPA 70-1999	<i>National Electrical Code</i>
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1.3 DEFINITIONS

Unless listed below, definitions shall be as shown in ANSI/IEEE 18 or in ANSI/IEEE 100.

ambient temperature: The temperature of the surrounding cooling medium, usually air, which comes into contact with the heated parts of the apparatus.