

An American National Standard

IEEE Standard Guide for Methods of Power-Factor Measurement for Low-Voltage Inductive Test Circuits

Sponsor
**Switchgear Committee
of the
IEEE Power Engineering Society**

Secretariat

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

Approved September 16, 1971
Reaffirmed September 8, 1977
Reaffirmed September 28, 1990
Reaffirmed December 10, 1996

IEEE Standards Board

Approved May 9, 1972
Reaffirmed June 30, 1986
Reaffirmed February 20, 1991
Reaffirmed July 30, 1997

American National Standards Institute

©Copyright 1972 by

The Institute of Electrical and Electronics Engineers, Inc
345 East 47th Street, New York, NY 10017 USA

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.

IEEE Standards documents are developed within the Technical Committees of the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Board. Members of the committees serve voluntarily and without compensation. They are not necessarily members of the Institute. The standards developed within IEEE represent a consensus of the broad expertise on the subject within the Institute as well as those activities outside of IEEE which have expressed an interest in participating in the development of the standard.

Use of an IEEE Standard is wholly voluntary. The existence of an IEEE Standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE Standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard. Every IEEE Standard is subjected to review at least once every five years for revision or reaffirmation. When a document is more than five years old, and has not been reaffirmed, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE Standard.

Comments for revision of IEEE Standards are welcome from any interested party, regardless of membership affiliation with IEEE. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments.

Interpretations: Occasionally questions may arise regarding the meaning of portions of standards as they relate to specific applications. When the need for interpretations is brought to the attention of IEEE, the Institute will initiate action to prepare appropriate responses. Since IEEE Standards represent a consensus of all concerned interests, it is important to ensure that any interpretation has also received the concurrence of a balance of interests. For this reason IEEE and the members of its technical committees are not able to provide an instant response to interpretation requests except in those cases where the matter has previously received formal consideration.

Comments on standards and requests for interpretations should be addressed to:

Secretary, IEEE Standards Board
345 East 47th Street
New York, NY 10017
USA

Foreword

(This Foreword is not a part of American National Standard and IEEE Standard Guide for Power Factor Measurement for Low-Voltage Inductive Test Circuits, ANSI C37.26-1972, IEEE Std 330-1972.)

This standard covers methods used to measure the power factor in low-voltage test circuits. Since the power factor measurement for high capacity test circuits is particularly difficult and different methods may yield different results, the methods that are least likely to yield error are recommended in this standard guide for any particular circuit condition.

This low-voltage standard guide has been written as a compatible companion to the high-voltage American National Standard Methods for Determining the RMS Value of a Sinusoidal Current Wave and a Normal-Frequency Recovery Voltage for AC High-Voltage Circuit Breakers, C37.05-1964 (R1969) and American National Standard Methods for Determining Values of a Sinusoidal Current Wave, Normal-Frequency Recovery Voltage, and a Guide for Calculation of Fault Currents for Application of AC High-Voltage Circuit Breakers Rated on a Total Current Basis, C37.5-1969.

It is the policy of both the Institute of Electrical and Electronics Engineers and American National Standards Committee C37 to maintain this standard current with the state of technology. Comments on this standard, as well as suggestions for additional material that should be included are invited. These should be addressed to the American National Standards Institute, 1430 Broadway, New York, N. Y. 10018, with copy to the Secretary, IEEE Standards Committee, Institute of Electrical and Electronics Engineers, 345 East 47th Street, New York, N.Y. 10017.

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

The personnel of the Low-Voltage Switchgear Devices Subcommittee of the IEEE Switchgear Committee, which approved this document, were as follows:

R. S. Smithley, *Chair*
H. H. Connelley, *Secretary*

L. L. Baird
R. N. Bell
A. N. Eliassen
W. H. Ferguson
J. M. Gasque, Jr

C. R. Joy
J. J. Komisky
Jean Lafontaine
J. C. Lebens
R. A. McMaster
V. A. Mortenson

G. H. Plate
P. J. Reifschneider
F. J. Shields
James Stewart
J. R. Truitt

Members of the Working Group of the IEEE Low-Voltage Switchgear Devices Subcommittee that prepared this standard were as follows:

J. J. Komisky, *Chair*
G. H. Plate, (*Assistant Chairman*)

R. N. Bell
T. F. Brandt, Jr

W. H. Ferguson
J. C. Lebens
V. A. Mortenson

P. J. Reifschneider
R. S. Smithley

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

Charles L. Wagner, *Chair*
J. G. Werner, *Secretary*
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*)
V. L. Cox (*Consulting Engineer*)

<i>Organization Represented</i>	<i>Name of Representative</i>
Association of Iron and Steel Engineers	T. S. Novak
Electric Light and Power Group	J. E. Beehler H. G. Frus F. R. Solis R. R. Wagstaff K. D. Hendrix (<i>Alt</i>) J. P. Markey (<i>Alt</i>) C. D. Stalnaker (<i>Alt</i>)
Institute of Electrical and Electronics Engineers	H.O. Simmons, Jr C. J. Essel J. B. Owens G. W. Walsh H. W. White R. E. Friedrich (<i>Alt</i>)
National Electrical Manufacturers Association	A. P. Colaiaco R. W. Dunham C. E. Gryctko W. J. Smith W. R. Wilson J. G. Werner (<i>Alt</i>)
Tennessee Valley Authority	Owen S. C. Hammer
U. S. Department of the Army	W. K. Cave
U. S. Department of the Interior, Bureau of Reclamation	Edward M. Tomsic
U. S. Department of the Navy, Naval Facilities Engineering Command	Norman Mawdsley Leonard W. Johnson (<i>Alt</i>)

The personnel of the C37 Subcommittee on Low-Voltage Switchgear Devices which reviewed this document were as follows:

P. J. Reifschneider, *Chair*
J. G. Werner, *Secretary*

O. J. Albani
R. N. Bell
J. L. Drown
C. R. Joy
R. A. McMasters
J. Stewart