

IEEE Guide for Making Corona (Partial Discharge) Measurements on Electronics Transformers

Sponsor

Electronics Transformer Technical Committee
of the IEEE Power Engineering Society

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Abstract: A uniform procedure for making corona (partial discharge) measurements by electrical means on electronic transformers is presented. Methods of applying voltage stress, the use of a sine-wave voltage to simulated dc and ac combinations, the types and limitations of voltage stresses encountered, and the acceptable limits of discharge pulse energy are included. Recommended test conditions and the need for negotiation of special tests are discussed. Test apparatus and calibration are described. The aim is to establish a common ground of understanding between transformer and systems design engineers and transformer manufacturers in the development of service and performance requirements.

Keywords: corona, partial discharge, insulation breakdown, transformer insulation

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Foreword

(This Foreword is not a part of IEEE Std 436-1991, IEEE Guide for Making Corona (Partial Discharge) Measurements on Electronics Transformers.)

This guide was written to provide electronics transformer engineers with a standard method for detecting and measuring corona (partial discharge) in electronics transformers. Since there is no simple definition or unit for corona, it is felt that a guide of this nature will be useful in establishing a common ground of understanding between transformer and systems design engineers and transformer manufacturers in the development of service and performance requirements.

This publication was prepared by the Insulation Systems Subcommittee of the Electronics Transformers Technical Committee of the IEEE Power Electronics Society. The Subcommittee membership was as follows:

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The final conditions for approval of this guide were met on February 11, 1991. This guide was conditionally approved by the IEEE Standards Board on September 28, 1990 with the following membership:

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