



# IEEE Standard for Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above

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**Power & Energy Society**

Sponsored by the  
Transformers Committee

C57.13.5<sup>TM</sup>

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IEEE  
3 Park Avenue  
New York, NY 10016-5997, USA  
30 December 2009

**IEEE Std C57.13.5<sup>TM</sup>-2009**  
(Revision of  
IEEE Std C57.13.5-2003)



# **IEEE Standard for Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above**

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**Transformers Committee**  
of the  
**IEEE Power & Energy Society**

Approved 11 September 2009

**IEEE-SA Standards Board**

**Abstract:** Single-phase instrument transformers of a nominal system voltage of 115 kV and above with capacitive insulation system for line-to-ground connection and for both indoor and outdoor application is discussed in this standard. This standard is intended for use as a supplement to IEEE Std C57.13™-2008 and as a basis for performance and safety of equipment. It also describes test sequences, criteria, methods, and documentation for the test.

**Keywords:** design test, high-voltage, instrument transformers, routine tests, special tests, test criteria, test method, test requirements, test sequence

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The Institute of Electrical and Electronics Engineers, Inc.  
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PDF: ISBN 978-0-7381-6086-3      STD95981  
Print: ISBN 978-0-7381-6087-0      STDPD95981

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## Introduction

This introduction is not part of IEEE Std C57.13.5-2009, IEEE Standard for Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above.

The mission of the IEEE PC57.13.5 Working Group is to develop a comprehensive set of performance and test requirements for instrument transformers of a nominal system voltage of 115 kV and above. The objective is to improve the performance and safety of the instrument transformers in response to the concern indicated in the publication EPRI Workshop on Failed High Voltage Instrument Transformers, held in September 1990.

The first edition was published in 2003.

The main changes introduced in this revision are:

- Update of references
- Addition of temperature rise limits of terminals
- Additional requirements concerning the use of non-corrosive oil
- Revision of mechanical requirements
- Addition of a new annex related to current transformers used for the detection of unbalance current of capacitor banks
- Addition of a new annex related to current transformers having transient performance requirements
- Addition of a new informative annex giving additional information regarding the Electrical endurance test

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# IEEE Standard for Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115 kV and Above

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## 1. Overview

### 1.1 Scope

This standard applies to single-phase instrument transformers of a nominal system voltage of 115 kV and above with capacitive insulation system for line-to-ground connection and for both indoor and outdoor application.

This standard is intended for use as a supplement to IEEE Std C57.13<sup>TM</sup>-2008<sup>1</sup> and as a basis for performance and safety of equipment. It also describes test sequences, criteria, methods and documentation for the test.

### 1.1 Purpose

The purpose of this standard is to supplement the IEEE Std C57.13-2008, with specific requirements to single-phase instrument transformers of a nominal system voltage of 115 kV and above, with capacitive insulation system for line-to-ground connection and for both indoor and outdoor applications.

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<sup>1</sup> Information on reference can be found in Clause 2.