

# IEEE Std 3004.1™ - 2013

IEEE Recommended Practice for the  
Application of Instrument  
Transformers in Industrial and  
Commercial Power Systems



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# IEEE Recommended Practice for the Application of Instrument Transformers in Industrial and Commercial Power Systems

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Approved 6 February 2013

**IEEE-SA Standards Board**

**Abstract:** The selection and application of instrument transformers used in industrial and commercial power systems are covered in this recommended practice.

**Keywords:** CT, current transformer, IEEE 3004.1<sup>TM</sup>, instrument transformer, voltage transformer, VT

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## Introduction

This introduction is not part of IEEE Std 3004.1-2013, IEEE Recommended Practice for the Application of Instrument Transformers in Industrial and Commercial Power Systems.

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This recommended practice was developed by the Technical Books Coordinating Committee of the Industrial and Commercial Power Systems Department of the Industry Applications Society as part of a project to repackage the popular IEEE Color Books®. The goal of this project is to speed up the revision process, eliminate duplicate material, and facilitate use of modern publishing and distribution technologies.

When this project is completed, the technical material in the thirteen IEEE Color Books will be included in a series of new standards—the most significant of which will be a new standard, IEEE Std 3000™, IEEE Recommended Practice for the Engineering of Industrial and Commercial Power Systems. The new standard will cover the fundamentals of planning, design, analysis, construction, installation, startup, operation, and maintenance of electrical systems in industrial and commercial facilities. Approximately 60 additional dot standards, organized into the following categories, will provide an in-depth treatment of many of the topics introduced by IEEE Std 3000™:

- Power Systems Design (3001 series)
- Power Systems Analysis (3002 series)
- Power Systems Grounding (3003 series)
- Protection and Coordination (3004 series)
- Emergency, Standby Power, and Energy Management Systems (3005 series)
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- Power Systems Maintenance, Operation, and Safety (3007 series)

In many cases, the material in a dot standard comes from a particular chapter of a particular IEEE Color Book. In other cases, material from several IEEE Color Books has been combined into a new dot standard.

The material in this recommended practice largely comes from IEEE Std 242™ (*IEEE Buff Book™*).

### IEEE Std 3004.1™

This recommended practice covers the selection and application of instrument transformers used in industrial and commercial power systems.

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## 1. Overview

### 1.1 Scope

This recommended practice covers the selection and application of instrument transformers used in industrial and commercial power systems.

## 2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.