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# IEEE Std 3001.8™ -2013

IEEE Recommended Practice for the  
Instrumentation and Metering of  
Industrial and Commercial Power  
Systems



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# IEEE Recommended Practice for the Instrumentation and Metering of Industrial and Commercial Power Systems

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## Introduction

This introduction is not part of IEEE Std 3001.8-2013, IEEE Recommended Practice for the Instrumentation and Metering of 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 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)
- Power Systems Reliability (3006 series)
- Power Systems Maintenance, Operations, 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 141™ (*IEEE Red Book™*) and IEEE Std 241™ (*IEEE Gray Book™*).

### IEEE Std 3001.8™

This recommended practice covers the instrumentation and metering of industrial and commercial power systems. It describes the importance of metering to achieve a successful energy management process, as well as considerations that must be made when applying the latest metering technology.

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# IEEE Recommended Practice for the Instrumentation and Metering of Industrial and Commercial Power Systems

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## 1. Overview

### 1.1 Scope

This recommended practice covers the instrumentation and metering (I&M) of industrial and commercial power systems. It describes the importance of metering to achieve a successful energy management process as well as considerations that must be made when applying the latest metering technology.

### 1.2 General

I&M is essential to satisfactory operation, monitoring, and trouble shooting of the electrical power distribution system serving any facility. Metering needs are now being driven by existing and new regulatory requirements relating to energy use and energy efficiency.

The specific requirements and complexity of the appropriate I&M for any facility, however, is highly dependent on the size and complexity of the facility. It is also dependent on economic factors related not