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IEEE Recommended Practice for Installation and Maintenance of Lead-Acid Batteries for Photovoltaic (PV) Systems

STANDARDS

IEEE Standards Coordinating Committee 21

Developed by the
IEEE Standards Coordinating Committee 21 on Fuel Cells, Photovoltaics, Dispersed Generation, and Energy Storage

IEEE Std 937™-2019
(Revision of IEEE Std 937-2007)

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Approved 7 November 2019

IEEE SA Standards Board

Abstract: Design considerations and procedures for storage, location, mounting, ventilation, assembly, and maintenance of lead-acid storage batteries for photovoltaic power systems are provided in this standard. Safety precautions and instrumentation considerations are also included. Even though general recommended practices are covered, battery manufacturers may provide specific instructions for battery installation and maintenance.

Keywords: battery installation, battery maintenance, IEEE 937™, photovoltaic power system, sizing lead-acid battery

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Introduction

This introduction is not part of IEEE Std 937-2019, IEEE Recommended Practice for Installation and Maintenance of Lead-Acid Batteries for Photovoltaic (PV) Systems.

This recommended practice provides design considerations and procedures for storage, location, mounting, ventilation, assembly, and maintenance of lead-acid storage batteries for photovoltaic power systems. Safety precautions and instrumentation considerations are also included. While this document gives general recommended practices, battery manufacturers may provide specific instructions for battery installation and maintenance.

While there are other IEEE standards that cover lead-acid battery installation and maintenance, they are generally designed for other types of applications, such as float-service, utility grid-tied applications. This document provides information for installation and maintenance of lead-acid batteries in photovoltaic applications that are characterized by nongrid connected, cycling service. These procedures also reflect consideration of the typically remote nature of photovoltaic applications.

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IEEE Recommended Practice for Installation and Maintenance of Lead-Acid Batteries for Photovoltaic (PV) Systems

1. Overview

1.1 Scope

This recommended practice provides design considerations and procedures for storage, location, mounting, ventilation, assembly, and maintenance of lead-acid storage batteries for photovoltaic power systems. Safety precautions and instrumentation considerations are also included.

While this document gives general recommended practices, battery manufacturers may provide specific instructions for battery installation and maintenance.

1.2 Purpose

This recommended practice is meant to assist lead-acid battery users to properly store, install, and maintain lead-acid batteries used in residential, commercial, and industrial photovoltaic 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.

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