

*Recognized as an
American National Standard (ANSI)*

IEEE Std C57.12.23™-2002
(Revision of
IEEE Std C57.12.23-1992)

IEEE Standard for Underground Type, Self-Cooled, Single-Phase, Distribution Transformers with Separable Insulated High-Voltage Connectors; High Voltage 25 000 V and Below; Low Voltage 600 V and Below; 167 kVA and Smaller

Sponsor

**Transformers Committee
of the
IEEE Power Engineering Society**

Approved 29 October 2002
American National Standards Institute

Approved 13 June 2002
IEEE-SA Standards Board

Abstract: *Electrical, dimensional, and mechanical characteristics and certain safety features of single-phase, 60 Hz, mineral-oil-immersed, self-cooled, distribution transformers with separable insulated high-voltage connectors are covered. Ratings, testing, and construction are discussed.*
Keywords: *distribution transformer, mineral-oil-immersed, self-cooled, single-phase, submersible, subsurface, transformer, underground*

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*Print: ISBN 0-7381-3307-8 SH95006
PDF: ISBN 0-7381-3308-6 SS95006*

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Introduction

(This introduction is not part of IEEE Std C57.12.23-2002, IEEE Standard for Underground Type, Self-Cooled, Single-Phase, Distribution Transformers with Separable Insulated High-Voltage Connectors; High Voltage 25 000 V and Below; Low Voltage 600 V and Below; 167 kVA and Smaller.)

This standard covers certain electrical, dimensional, and mechanical characteristics and takes into consideration certain safety features of single-phase, 60 Hz, mineral-oil-immersed, self-cooled, underground distribution transformers with separable insulated high-voltage connectors. These transformers are generally used for step-down purposes from an underground primary cable supply and are suitable for occasional submerged operation. This standard is intended for use as a basis for determining performance, interchangeability, and safety of the equipment covered, and to assist in the proper selection of such equipment.

The 1986 revision to the standard expanded the scope to include 167 kVA. In addition, the dielectric test levels were updated and maximum test levels introduced to be consistent with other transformer standards.

The 1992 revision to the standard added the clause on storage and installation with particular emphasis on the position when stored and consideration of the angle of tilt when installed. This revision was reaffirmed in 1999.

The 2002 revision further expands the scope to include all high-voltage ratings 25 000 volts and below, including transformers designed for phase-to-phase connection. Previous revisions only included transformers designed for phase-to-ground connection. Also, the scope was expanded to include low-voltage ratings 600 volts and below. Previous revisions only covered a 240/120 volt rating.

The 2002 revision is the first standard in the C57.12.2X series to use the SI units of measure exclusively. The intent of this revision is to simply convert the in-lb units of the 1992 revision to SI units. Users of this standard should use judgement when converting from SI units back to the in-lb equivalent.

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