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IEEE Standard for Control Cabinets for Power Transformers

IEEE Power and Energy Society

Developed by the
Transformers Committee

IEEE Std C57.143™-2020
(Revision of
IEEE Std C57.148-2011)

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IEEE SA Standards Board

Abstract: Requirements for the design and construction of control cabinets on power transformers are covered by this standard.

Keywords: cabinet, circuit, component, construction, control cabinet, controls, current transformer, design, IEEE C57.148™, layout, manufacture

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Introduction

This introduction is not part of IEEE Std C57.148-2020, IEEE Standard for Control Cabinets for Power Transformers.

This standard, first published in 2011, was developed to provide requirements for the design and manufacture of control cabinets for Class I and Class II power transformers. It contained options to cover the various types of components that could be provided, the various types of cooling classes that may be employed, and the various site-specific or user-specified requirements that may exist for the transformer

In this latest revision of the standard, the document was updated to current IEEE styles, general revisions were made, and experience gained from its first five years of use were included. In addition, a new clause on drawing requirements was added, the clause on standard cabinet construction was rearranged for clarity, and a new clause on digital communication and telemetry and a companion clause were added to Annex B.

Contents

IEEE Standard for Control Cabinets for Power Transformers

1. Overview

1.1 Scope

This standard will provide minimum and optional function, layout, and construction requirements for standard control cabinet designs. It will also include a coding system for specifying standard control cabinets with the required options. This standard applies to Class I and Class II power transformers and does not apply to distribution or padmount design transformers.

1.2 Purpose

This document provides users and manufacturers with a set of standard designs that can be easily specified. The document should greatly reduce the engineering time required by manufacturers to create and by users to review control cabinet designs.

1.3 Word usage

The word *shall* indicates mandatory requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted (*shall* equals is *required to*).[1,2]

The word *should* indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required (*should* equals is *recommended that*).

The word *may* is used to indicate a course of action permissible within the limits of the standard (*may* equals is *permitted to*).

The word *can* is used for statements of possibility and capability, whether material, physical, or causal (*can* equals is *able to*).

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

[1]The use of the word *must* is deprecated and cannot be used when stating mandatory requirements; *must* is used only to describe unavoidable situations.
[2]The use of *will* is deprecated and cannot be used when stating mandatory requirements; *will* is only used in statements of fact.