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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

High-voltage switchgear and controlgear – Part 212: Compact Equipment Assembly for Distribution Substation (CEADS)

Appareillage à haute tension – Partie 212: Ensemble Compact d'Equipement pour Postes de Distribution (ECEPD)

IEC 62271-212:2016-1 (en-fr)

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 212: Compact Equipment Assembly for Distribution Substation (CEADS)

FOREWORD

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International Standard IEC 62271-212 has been prepared by subcommittee 17C: Assemblies, of IEC technical committee 17: High-voltage switchgear and controlgear.

The text of this standard is based on the following documents:

FDIS	Report on voting
17C/645/FDIS	17C/650/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This International Standard should be read in conjunction with IEC 62271-1:2007, to which it refers and which is applicable unless otherwise specified. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in IEC 62271-1. Amendments to these clauses and subclauses are given under the same numbering, whilst additional subclauses, are numbered from 101.

A list of all parts of the IEC 62271 series can be found, under the general title *High-voltage switchgear and controlgear*, on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Traditionally a high-voltage/low-voltage distribution substation has been constructed by installing the main electrical components –high-voltage switchgear, distribution transformer(s) and the corresponding low-voltage distribution panel(s)- within a closed electrical operating area. It can be a room within a building intended for other (non electrical uses) or a separated housing (prefabricated or not) designed specifically to contain the electrical equipment of the substation or an open area limited by fences.

Some years ago in the search for a more standardized and compact substation, the concept of prefabricated substation was developed. IEC 62271-202 covers this type of substation. According to this document, the main electrical components (high-voltage switchgear, transformer and low-voltage switchgear) are fully in compliance with their respective product standard, and the whole substation, including interconnections and enclosure is designed and type tested and later manufactured and routine tested in the factory. Correspondingly the quality of the substation is assured by the manufacturer.

Moreover, also other types of assemblies have been introduced in the market. These are assemblies comprising the main electrical active components of the substation and their interconnections, delivered as a single product. The product can therefore be type tested, manufactured, routine tested in the factory, transported and then installed in a closed electrical operating area.

This type of factory assembled and type-tested product is covered by this document receiving the generic name CEADS from Compact Equipment Assembly for Distribution Substation. Numerous arrangements are possible and this document provides guidance on basic types of assemblies, which might be envisaged.

A CEADS is not covered by IEC 61936-1. However CEADS is intended to become part of a distribution substation.

Taking into account the closer proximity of the components that even can share some parts (enclosure, solid or fluid insulation…) it is very relevant to pay attention to the potential interaction between them. Therefore to cover CEADS is neither sufficient nor always applicable to refer to the relevant product standards. This document covers any additional design and construction requirements and test methods applicable to the different types of CEADS. In addition to the specified characteristics, particular attention has been paid to the specification concerning the protection of persons, both operators and general public.

The CEADS is also for the interest of committee TC 14: Power transformers, and committee TC 121: Switchgear and controlgear and their assemblies for low voltage.