

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Power installations exceeding 1 kV AC and 1,5 kV DC –  
Part 1: AC**

**Installations électriques de puissance de tension supérieure à 1 kV en courant  
alternatif et 1,5 kV en courant continu –  
Partie 1: Courant alternatif**



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1 kV AC AND 1,5 kV DC –****Part 1: AC****FOREWORD**

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International Standard IEC 61936-1 has been prepared by IEC technical committee 99: Insulation co-ordination and system engineering of high voltage electrical power installations above 1,0 kV AC and 1,5 kV DC.

This third edition cancels and replaces the second edition published in 2010 and Amendment 1:2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) introduction has been rewritten to reflect the status when this document is produced;
- b) the scope has been improved to clarify the application of this document;
- c) missing and obsolete terms and definitions have been updated including improvement of existing terms;
- d) Table 1 has been updated where agreements between supplier and user are needed;
- e) requirements of electromagnetic compatibility have been clarified;

- f) insulation coordination clause (Clause 5) has improved wording for better clarity and the technical content has an updated coordination to the latest versions of the insulation coordination standards;
- g) wording regarding electrical equipment has been improved and made clearer;
- h) subclause for fuses has been improved and reworded;
- i) requirements have been added for labelling when multiple sources are required to be disconnected;
- j) missing requirements for GIS have been reintroduced;
- k) subclause regarding ventilation (HVAC) has been improved;
- l) figures in Clause 7 have been updated and moved to the corresponding subclause;
- m) requirements for transformer installations have been improved including adjustment of editorial typing-errors;
- n) clause on protection, automation and auxiliary systems has been restructured and improved;
- o) protection against lightning strokes has been extended;
- p) clarification of content due to the distinction between erection (and providing electrical safety for the intended use of the electrical power installation) and subsequent activities such as maintenance and repair with safe working procedures;
- q) where no provincial, national or regional regulations are available for safe working procedures, an informative guideline is provided in Annex F. This replaces the former parts of Figure 3 in Clause 7.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
99/311/FDIS	99/316/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

A list of all parts in the IEC 61936 series, published under the general title *Power installations exceeding 1 kV AC and 1,5 kV DC*, can be found on the IEC website.

A document on principles to be observed in the preparation of safety publications regarding high voltage installations is currently under development (IEC TS 61936-0).

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## INTRODUCTION

This part of IEC 61936 contains the minimum requirements for the design, erection, and verification of high voltage power installations greater than 1 kV AC. The rules are intended to provide for the safety of persons, livestock and property against dangers and damage which may arise in the reasonable use of such electrical installations and to provide for the proper functioning of those installations.

There are many provincial, national and regional laws, standards and internal rules dealing with the matter coming within the scope of this document regarding high voltage power installations. These practices have been taken as a basis for this work.

This third edition of IEC 61936-1, first published in 2001, follows worldwide feedback to improve clarity. It continues the effort to towards the alignment all over the world of practices concerning the design and erection of high voltage power installations.

Particular requirements for transmission and distribution installations, as well as particular requirements for power generation and industrial installations, are included in this document.

While national standards and regulations take precedence, jurisdictions may elect to adopt the requirements of this document.