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BSI Standards Publication

Power installations exceeding 1 kV AC and 1,5 kV DC

Part 0: Principles to be observed in the design and erection of high voltage installations — Safety of high voltage installations

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The UK participation in its preparation was entrusted to Technical Committee PEL/99, Erection and operation of power installations.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Power installations exceeding 1 kV AC and 1,5 kV DC – Part 0: Principles to be observed in the design and erection of high voltage installations – Safety of high voltage installations

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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POWER INSTALLATIONS EXCEEDING 1 kV AC AND 1,5 kV DC –

Part 0: Principles to be observed in the design and erection of high voltage installations – Safety of high voltage installations

FOREWORD

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IEC TS 61936-0 has been prepared by 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. It is a Technical Specification.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
99/375/DTS	99/404/RVDTS

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 Technical Specification 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 https://www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at https://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.

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

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- withdrawn,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

INTRODUCTION

The scope of TC 99 is the standardisation of insulation co-ordination for high voltage systems and common rules and particular requirements for system engineering and erection of high voltage electrical power installations for power generation, transmission, distribution, and consumer premises, in both indoor and outdoor situations, with particular consideration of safety aspects.

With the increasing development of electric power systems and renewable energy devices, there is an increasing demand for Technical Committees to define installations, systems and equipment at voltages above 1,0 kV AC and 1,5 kV DC. This requirement became evident during the activities of TC 99 AhG6's discussions with TC 18 and TC 88 where a review of documents prepared by these TCs showed that there was a need for a document which defines principles to be observed in design and the erection of HV installations.

The objective of this document is to give the principles for TCs in how to define requirements with respect to HV installations to ensure that safety of such systems is maintained and that a consistent approach is taken by all TCs involved with HV installations with respect to design, operation and maintenance of installation at voltages above 1,0 kV AC and 1,5 kV DC.

Figure 1 below describes the relationship of this document to other IEC standards:

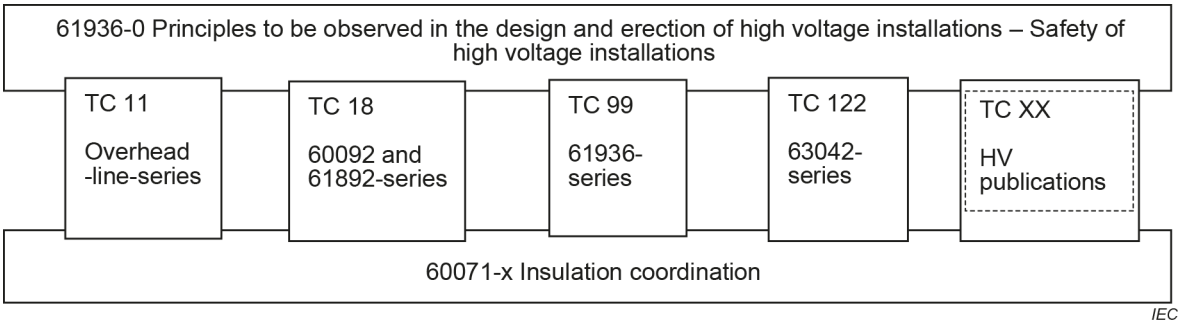

Figure 1 – Relationship of IEC 61936-0 to other IEC standards

POWER INSTALLATIONS EXCEEDING 1 kV AC AND 1,5 kV DC –

Part 0: Principles to be observed in the design and erection of high voltage installations – Safety of high voltage installations

1 Scope

This part of IEC 61936 provides principles to ensure the coherence amongst HV publications to be observed necessary for the coordination of the design, selection of equipment, operation, and maintenance activities for erection of electrical HV installations to ensure the safety of such systems.

In the context of this document, "safety" relates to the safety of persons, domestic animals, livestock and property.

This Technical Specification is intended for use by technical committees in the preparation of standards with safety aspects which can be a part of an electrical high voltage installation.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC Guide 51:2014, *Safety aspects – Guidelines for their inclusion in standards*

IEC 60068 (all parts), *Environmental testing*

IEC 60071 (all parts), *Insulation co-ordination*

IEC 60445, *Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals, conductor terminations and conductors*

IEC TR 60479-5, *Effects of current on human beings and livestock – Part 5: Touch voltage threshold values for physiological effects*

IEC 60529, *Degrees of protection provided by enclosure (IP Code)*

IEC 60721 (all parts), *Classification of environmental conditions*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at https://www.electropedia.org/