IEC 61439-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Low-voltage switchgear and controlgear assemblies – Part 1: General rules

Ensembles d'appareillage à basse tension – Partie 1: Règles générales

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –

Part 1: General rules

FOREWORD

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International Standard IEC 61439-1 has been prepared by subcommittee 17D: Low-voltage switchgear and controlgear assemblies, of IEC technical committee 17: Switchgear and controlgear.

This second edition cancels and replaces the first edition published in 2009. It constitutes a technical revision.

This second edition includes the following significant technical changes with respect to the last edition of IEC 61439-1:

- revision of service conditions in Clause 7;
- numerous changes regarding verification methods in Clause 10;
- modification of routine verification in respect of clearances and creepage distances (see 11.3);

- adaption of the tables in Annex C and Annex D to the revised requirements and verification methods;
- revision of the EMC requirements in Annex J;
- shifting of tables from Annex H to new Annex N;
- new Annex O with guidance on temperature rise verification;
- new Annex P with a verification method for short-circuit withstand strength (integration of the content of IEC/TR 61117);
- update of normative references;
- general editorial review.

NOTE It should be noted that when a dated reference to IEC 60439-1 is made in another Part of the IEC 60439 series of assembly standards not yet transferred into the new IEC 61439 series, the superseded IEC 60439-1 still applies (see also the Introduction below).

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

FDIS	Report on voting
17D/441/FDIS	17D/446/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.

In this standard, terms written in small capitals are defined in Clause 3.

The “in some countries” notes regarding differing national practices are contained in the following subclauses:

5.4
8.2.2
8.3.2
8.3.3
8.4.2.3
8.5.5
8.6.6
8.8
9.2
10.11.5.4
10.11.5.6.1
Annex L
Annex M

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

A list of all parts of the IEC 61439 series, under the general title *Low-voltage switchgear and controlgear assemblies*, can be found 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 web site 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The purpose of this standard is to harmonize as far as practicable all rules and requirements of a general nature applicable to low-voltage switchgear and controlgear assemblies (ASSEMBLIES) in order to obtain uniformity of requirements and verification for ASSEMBLIES and to avoid the need for verification to other standards. All those requirements for the various ASSEMBLIES standards which can be considered as general have therefore been gathered in this basic standard together with specific subjects of wide interest and application, e.g. temperature rise, dielectric properties, etc.

For each type of low-voltage switchgear and controlgear assembly only two main standards are necessary to determine all requirements and the corresponding methods of verification:

– this basic standard referred to as “Part 1” in the specific standards covering the various types of low-voltage switchgear and controlgear assemblies;

– the specific ASSEMBLY standard hereinafter also referred to as the relevant ASSEMBLY standard.

For a general rule to apply to a specific ASSEMBLY standard, it should be explicitly referred to by quoting the relevant clause or sub-clause number of this standard followed by “Part 1” e.g. “9.1.3 of Part 1”.

A specific ASSEMBLY standard may not require and hence need not call up a general rule where it is not applicable, or it may add requirements if the general rule is deemed inadequate in the particular case but it may not deviate from it unless there is substantial technical justification detailed in the specific ASSEMBLY standard.

Where in this standard a cross-reference is made to another clause, the reference is to be taken to apply to that clause as amended by the specific ASSEMBLY standard, where applicable.

Requirements in this standard that are subject to agreement between the ASSEMBLY manufacturer and the user are summarised in Annex C (informative). This schedule also facilitates the supply of information on basic conditions and additional user specifications to enable proper design, application and utilization of the ASSEMBLY.

For the new re-structured IEC 61439 series, the following parts are envisaged:

a) IEC 61439-1: General rules

b) IEC 61439-2: Power switchgear and controlgear ASSEMBLIES (PSC-ASSEMBLIES)

c) IEC 61439-3: Distribution boards (to supersede IEC 60439-3)

d) IEC 61439-4: ASSEMBLIES for construction sites (to supersede IEC 60439-4)

e) IEC 61439-5: ASSEMBLIES for power distribution (to supersede IEC 60439-5)

f) IEC 61439-6: Busbar trunking systems (to supersede IEC 60439-2)

g) IEC/TR 61439-0: Guidance to specifying ASSEMBLIES.

This list is not exhaustive; additional Parts may be developed as the need arises.