

# INTERNATIONAL STANDARD



This extended version of IEC 61439-4:2023 includes the content of the references made to IEC 61439-1:2020

**Low-voltage switchgear and controlgear assemblies –  
Part 4: Particular requirements for assemblies for construction sites (ACS)**

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**The specific content of IEC 61439-4:2023 is displayed on a blue background.**

IEC 61439-4 has been prepared by subcommittee 121B: Low-voltage switchgear and controlgear assemblies, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage. It is an International Standard.

This second edition of IEC 61439-4 cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

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

- a) alignment with IEC 61439-1:2020 regarding the structure and technical content, as applicable.

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

Draft	Report on voting
121B/183/FDIS	121B/188/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/publications](http://www.iec.ch/publications).

This document is to be read in conjunction with IEC 61439-1:2020. The provisions of the general rules dealt with in IEC 61439-1:2020 are only applicable to this document insofar as they are specifically cited. When this document states “addition”, “modification” or “replacement”, the relevant text in IEC 61439-1:2020 is to be adapted accordingly.

Subclauses that are numbered with a 101 (102, 103, etc.) suffix are additional to the same subclause in IEC 61439-1:2020.

Tables and figures in this document that are new are numbered starting with 101.

New annexes in this document are lettered AA, BB, etc.

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

The reader’s attention is drawn to the fact that Annex N lists all of the “in-some-country” clauses on differing practices of a less permanent nature relating to the subject of this document.

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 document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be:

- reconfirmed,
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## INTRODUCTION

The purpose of this document is to harmonize as far as practicable all rules and requirements of a general nature applicable to low-voltage switchgear and controlgear assemblies, in order to obtain uniformity of requirements and verification for assemblies and to avoid the need for verification in other standards. All those requirements for the various assembly standards which can be considered as general have therefore been gathered in this document 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:

- the basic standard, (this document) referred to as “IEC 61439-1” 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 this document followed by the relevant clause or subclause number e.g. “IEC 61439-1:2020, 9.1.3”.

A specific assembly standard may not require, and hence need not call up, a general rule where it is not applicable, or it can 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 document, 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 document that are subject to agreement between the assembly manufacturer and the user are summarized 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 IEC 61439 series, the following parts are published:

- a) IEC 61439-1: General rules
- b) IEC 61439-2: Power switchgear and controlgear assemblies (PSC-assemblies)<sup>1</sup>
- c) IEC 61439-3: Distribution boards intended to be operated by ordinary persons (DBO)
- d) IEC 61439-4: Particular requirements for assemblies for construction sites (ACS)
- e) IEC 61439-5: Assemblies for power distribution in public networks
- f) IEC 61439-6: Busbar trunking systems (busways)
- g) IEC 61439-7: Assemblies for specific applications such as marinas, camping sites, market squares, electric vehicle charging stations
- h) IEC TR 61439-0: Guidance to specifying assemblies.

This list is not exhaustive; additional parts can be developed as the need arises.

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<sup>1</sup> IEC 61439-2 includes requirements for assemblies for use in photovoltaic installations.

# LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –

## Part 1: General rules

### 1 Scope

NOTE Throughout this document, the abbreviation ACS (assembly for construction site, see 3.1.101) is used for a low-voltage switchgear and controlgear assembly intended for use on construction and similar sites.

This document defines the specific requirements of ACS as follows:

- assemblies for which the rated voltage does not exceed 1 000 V in case of AC or 1 500 V in case of DC;
- assemblies where the nominal primary voltage and the nominal secondary voltage of transformers incorporated in ACS are within the limits specified above;
- assemblies intended for use on construction sites, both indoors and outdoors, i.e. temporary places of work to which the public do not generally have access and where building construction, installation, repairs, alteration or demolition of property (buildings) or civil engineering (public works) or excavation or any other similar operations are carried out;
- transportable (semi-fixed) or MOBILE assemblies with enclosure.

The manufacture and/or assembly can be carried out by an entity other than by the original manufacturer (see 3.10.1 of IEC 61439-1:2020).

This document does not apply to individual devices and self-contained components, such as motor starters, fuse switches, electronic equipment, etc. which will comply with the relevant product standards.

This document does not apply to assemblies for use in the administrative centres of construction sites (offices, cloakrooms, meeting rooms, canteens, restaurants, dormitories, toilets, etc.).

Requirements for electrical protection provided by equipment manufactured according to this document are given in IEC 60364-7-704.

### 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.

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-11:1981, *Basic environmental testing procedures – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60068-2-27, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60068-2-30:2005, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*