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TECHNICAL REPORT

**Low-voltage switchgear and controlgear assemblies –
Part 0: Guidance to specifying assemblies**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –**Part 0: Guidance to specifying assemblies**

FOREWORD

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The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a technical report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC/TR 61439-0, which is a technical report, has been prepared by subcommittee 17D: Low-voltage switchgear and controlgear assemblies, of IEC technical committee 17: Switchgear and controlgear.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
17D/402/DTR	17D/421/RVC

Full information on the voting for the approval of this technical report 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.

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 web site.

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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

For the purposes of this technical report, the user is the party who specifies or selects the ASSEMBLY characteristics. The user may be the same party as the one who will use and operate the ASSEMBLY, or someone acting on their behalf. The aim of this technical report is to provide the user with guidance on the specification that should be provided in order to achieve the desired design of an assembly. Throughout this technical report, the term ASSEMBLY is used for a low-voltage switchgear and controlgear assembly. The term “manufacturer” refers to the ASSEMBLY manufacturer unless specifically noted otherwise.

The purpose of the IEC 61439 series of standards is to harmonize as far as practicable, all the general rules and requirements that apply to ASSEMBLIES. The series further seeks, in order to obtain uniformity of requirements for ASSEMBLIES, consistency in the verification of ASSEMBLIES and to avoid the need for verification to other standards.

All those requirements for the various ASSEMBLIES that can be considered as general, together with specific subjects of wide interest and application, e.g. temperature rise, dielectric properties, have therefore been gathered in Part 1 of IEC 61439 as general rules. For each type of ASSEMBLY only two main standards are necessary to determine all requirements and the corresponding methods of verification:

- 1) the standard giving the general rules and designated “Part 1”, and
- 2) the specific ASSEMBLY standard, hereinafter referred to as the relevant ASSEMBLY standard.

The IEC 61439 series of standards encompasses ASSEMBLIES for a wide variety of uses, some of which have specific needs as dictated by their particular application. In order to define clearly these specific needs, relevant ASSEMBLY standards focussed on a particular type of application have been (or are being) developed. These are identified as IEC 61439-2 to IEC 61439-6, inclusive (see list below). Each relevant ASSEMBLY standard with reference to IEC 61439-1, the general rules, as appropriate, specifies the characteristics and performance required by an ASSEMBLY within its defined scope of application. Each relevant ASSEMBLY standard includes, as an annex, a template for “items subject to agreement between the ASSEMBLY manufacturer and the user” to facilitate the specifying of an ASSEMBLY. These are reproduced and explained in this technical report.

Within this technical report, reference to IEC 61439 means the series of ASSEMBLY standards, including:

- IEC 61439-1(2009), *Low-voltage switchgear and controlgear assemblies – Part 1:General rules*
- IEC 61439-2(2009), *Low-voltage switchgear and controlgear assemblies – Part 2:Power switchgear and controlgear assemblies*
- IEC 61439-3 (in preparation), *Low-voltage switchgear and controlgear assemblies – Part 3: Distribution boards intended to be operated by ordinary persons (DBO)* (to supersede IEC 60439-3)
- IEC 61439-4 (in consideration), *Low-voltage switchgear and controlgear assemblies – Part 4: Assemblies for construction sites* (to supersede IEC 60439-4)
- IEC 61439-5 (to be published), *Low-voltage switchgear and controlgear assemblies – Part 5:Assemblies for power distribution in public networks* (to supersede IEC 60439-5)
- IEC 61439-6 (in preparation), *Low-voltage switchgear and controlgear assemblies – Part 6:Busbar trunking systems (busways)* (to supersede IEC 60439-2)

A reference to “general rules” means a reference to IEC 61439-1(2009).

A reference to “ASSEMBLY standard” means the relevant part of the IEC 61439 series (e.g. Part 2, 3, etc.).

A reference to “product standard” means the relevant part or parts of the IEC standard for the components used in the ASSEMBLY (e.g. IEC 60947-2 for circuit breakers).

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –

Part 0: Guidance to specifying assemblies

1 Scope

Within the IEC 61439 series of standards for low-voltage switchgear and controlgear assemblies (ASSEMBLIES), there are system and application details that need to be specified by the user to enable the manufacturer to produce an ASSEMBLY that meets the needs and expectations of the user. This technical report identifies, from the user's perspective, those functions and characteristics that should be defined when specifying ASSEMBLIES. It provides:

- an explanation of the ASSEMBLY characteristics and options within the IEC 61439 series;
- a guidance on how to select the appropriate option and to define characteristics so as to meet specific application needs, using a functional approach; and
- an assistance in the specification of ASSEMBLIES.

References within this technical report to the interface characteristics of an ASSEMBLY and the requirements with which they will comply assume that the ASSEMBLY is designed, manufactured, and verified in accordance with the relevant IEC 61439 standard.

2 Normative references

The following referenced documents are indispensable for the application 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.

CISPR 11, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*

IEC 60364-4-41, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-6, *Low-voltage electrical installations – Part 6: Verification*

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

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

IEC 61439-1:2009, *Low-voltage switchgear and controlgear assemblies – Part 1: General rules*

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*