IEC 61499-4

Edition 2.0 2013-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Function blocks –
Part 4: Rules for compliance profiles

Blocs fonctionnels –
Partie 4: Règles pour les profils de conformité

IEC 61499-4:2013

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FUNCTION BLOCKS –

Part 4: Rules for compliance profiles

FOREWORD

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International Standard IEC 61499-4 has been prepared by subcommittee 65B: Measurement and control devices, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2005. This edition constitutes a technical revision.

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

Table B.1 has been updated for consistency with Table 8 of IEC 61499-1:2013.

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

FDIS	Report on voting
65B/854/FDIS	65B/862/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.

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

A list of all parts of the IEC 61499 series, published under the general title *Function blocks*, can be found on the IEC website.

Terms defined in IEC 61499-1, IEC 61499-2 and this standard are *italicized*.

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- withdrawn,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.

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FUNCTION BLOCKS –

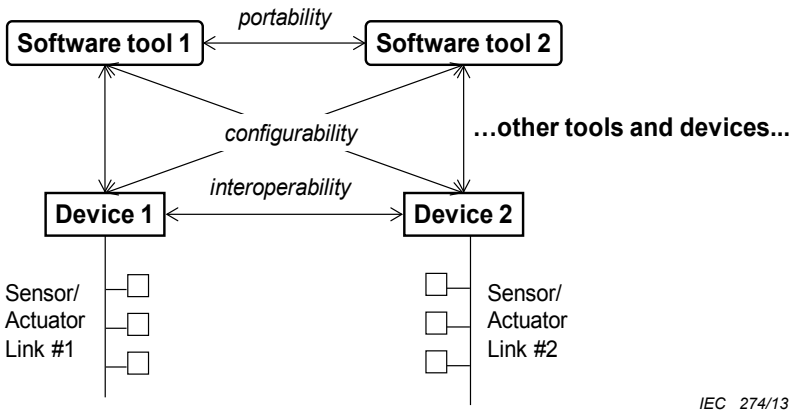
Part 4: Rules for compliance profiles

1 Scope

This part of IEC 61499 defines rules for the development of *compliance profiles,* which specify the features of IEC 61499-1 and 61499-2 to be implemented in order to promote the following *attributes* of IEC 61499-based *systems, devices* and *software tools*:

- *interoperability* of *devices* from multiple suppliers;
- *portability* of *software* between *software tools* of multiple suppliers; and
- *configurability* of devices from multiple vendors by software tools of multiple suppliers.

These attributes are illustrated in Figure 1.



NOTE 1 The sensor/actuator links designated #1 and #2 in Figure 1 may be non-interoperable. However, it is intended that systems complying with a particular profile may show the transfer of *events* and *data* from sensors on one link to actuators on another link using appropriately configured and interconnected *service interface function blocks*.

NOTE 2 Compliance profiles may extend their scope beyond that shown in Figure 1 to include interoperability of sensors and actuators.

NOTE 3 Suppliers of *software tools* ensure that their products conform to the requirements of IEC 61499-2 as well as any specific requirements defined in compliance profiles applicable to their particular software tools.

Figure 1 – Topics addressed by compliance profiles

The specification of provisions for the facilitation of device *interchangeability* is beyond the scope of this part of IEC 61499.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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IEC 61499-1,— *Function blocks – Part 1: Architecture*[1]

IEC 61499-2,— *Function blocks – Part 2: Software tool requirements*[1]

ISO/IEC Directives, Part 2:2011, *Rules for the structure and drafting of International Standards*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61499-1 and IEC 61499-2, as well as the following, apply.

NOTE 1 Terms defined in this clause are *italicized* where they appear.

NOTE 2 See also the ISO/AFNOR *Dictionary of computer science*[2] and the *International Electrotechnical Vocabulary*[3] for terms not defined or referenced in this part of IEC 61499.

3.1
comply
comply with a specification
meet all the requirements (of the specification)

3.2
compliance profile
specification *complying* with the rules given in this part of IEC 61499

3.3
configurability
ability (of a functional unit) to be *configured*

EXAMPLE The *configurability* of a *device* can be expressed by the extent to which it *conforms* to the configurability requirements of a *compliance profile*.

3.4
conform
conform to a specification
satisfy some, but not necessarily all, of the requirements (of the specification)

EXAMPLE A *software tool* or a device developed to meet some but not necessarily all of the requirements of a compliance profile is said to "conform to" or to be "conformant with" that compliance profile.

3.5
interoperable
able to operate together to perform a specified set of *functions*

EXAMPLE Two *devices* may be considered *interoperable* if they are able to operate together to perform the *functions* specified in a *system configuration*.

3.6
interchangeable
interchangeable with a *functional unit*
able to be substituted (for the functional unit)

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[1] To be published. Expected publication date: 2013.

[2] See Bibliography.

[3] See Bibliography.

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