



NSAI
Standards

Irish Standard
I.S. EN 61499-2:2013

Function blocks -- Part 2: Software tool requirements (IEC 61499-2:2012 (EQV))

I.S. EN 61499-2:2013

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

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English version

**Function blocks -
Part 2: Software tool requirements
(IEC 61499-2:2012)**

Blocs fonctionnels -
Partie 2: Exigences pour les outils
logiciels
(CEI 61499-2:2012)

Funktionsbausteine für industrielle
Leitsysteme -
Teil 2: Anforderungen an Software-
Werkzeuge
(IEC 61499-2:2012)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 65B/846/FDIS, future edition 2 of IEC 61499-2, prepared by IEC/TC 65B "Measurement and control devices" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61499-2:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-09-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-12-12

This document supersedes EN 61499-2:2005.

EN 61499-2:2013 includes the following significant technical changes with respect to EN 61499-2:2005:

- the contents of Annex A have been updated to conform to the technical changes of the second edition of EN 61499-1;
- CDATA sections are now allowed for the textual contents of algorithms in Tables A.4 and A.5.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61499-2:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 61499-4 NOTE Harmonised as EN 61499-4.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61131-3	2003	Programmable controllers - Part 3: Programming languages	EN 61131-3	2003
IEC 61499-1	2012	Function blocks - Part 1: Architecture	EN 61499-1	2013
ISO/IEC 8824	Series	Information technology - Abstract Syntax Notation One (ASN.1)	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FUNCTION BLOCKS –

Part 2: Software tool requirements

FOREWORD

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International Standard IEC 61499-2, 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:

- The contents of Annex A have been updated to conform to the technical changes of the second edition of IEC 61499-1.
- CDATA sections are now allowed for the textual contents of algorithms in Tables A.4 and A.5.

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

FDIS	Report on voting
65B/846/FDIS	65B/856/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 can be found, under the general title *Function blocks*, on the IEC website.

Terms used throughout this International Standard that have been defined in Clause 3 of IEC 61499-1:2012 and in this International Standard appear in *italics*.

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

IEC 61499 consists of the following parts, under the general title *Function blocks*:

- Part 1: Architecture
- Part 2: Software tool requirements
- Part 3: Tutorial information (withdrawn)
- Part 4: Rules for compliance profiles

FUNCTION BLOCKS –

Part 2: Software tool requirements

1 Scope

This part of IEC 61499 defines requirements for *software tools* to support the following systems engineering tasks enumerated in IEC 61499-1:

- the specification of *function block types*;
- the functional specification of *resource types* and *device types*;
- the specification, analysis, and validation of distributed IPMCSs;
- the *configuration, implementation, operation, and maintenance* of distributed IPMCSs;
- the exchange of *information among software tools*.

It is assumed that such software tools may be used in the context of an Engineering Support System (ESS) as described in IEC 61499-1.

It is beyond the scope of this standard to specify the entire life cycle of industrial-process measurement and control systems (IPMCSs), or the entire set of tasks and activities required to support an IPCMS over its life cycle. However, other standards which do specify such tasks and activities may extend or modify the requirements specified in 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.

IEC 61131-3:2003, *Programmable controllers – Part 3: Programming languages*

IEC 61499-1:2012, *Function blocks – Part 1: Architecture*

ISO/IEC 8824 (all parts), *Information technology – Abstract Syntax Notation One (ASN.1)*

3 Terms and definitions

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

3.1

library element

collection of *declarations* applying to a *data type, function block type, adapter type, subapplication type, resource type, device type, segment type, or system configuration*

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