

Programmable controllers - Part 3: Programming languages

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 61131-3:2003 sisaldab Euroopa standardi EN 61131-3:2003 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 17.07.2003 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 28.03.2003.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 61131-3:2003 consists of the English text of the European standard EN 61131-3:2003.

This standard is ratified with the order of Estonian Centre for Standardisation dated 17.07.2003 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 28.03.2003.

The standard is available from Estonian standardisation organisation.

ICS 25.040, 35.240.50

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EUROPEAN STANDARD

EN 61131-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2003

ICS 25.040; 35.240.50

Supersedes EN 61131-3:1993

English version

Programmable controllers
Part 3: Programming languages
(IEC 61131-3:2003)

Automates programmables
Partie 3: Langues de programmation
(CEI 61131-3:2003)

Speicherprogrammierbare Steuerungen
Teil 3: Programmiersprachen
(IEC 61131-3:2003)

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 65B/456/FDIS, future edition 2 of IEC 61131-3, prepared by SC 65B, Devices, of IEC TC 65, Industrial-process measurement and control, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61131-3 on 2002-12-01.

This European Standard supersedes EN 61131-3:1993.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2003-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-12-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C, D, E and ZA are normative and annexes F and G are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61131-3:2003 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 60050	Series	International Electrotechnical Vocabulary	-	-
IEC 60559	1989	Binary floating-point arithmetic for microprocessor systems	HD 592 S1	1991
IEC 60617-12	1997	Graphical symbols for diagrams Part 12: Binary logic elements	EN 60617-12	1998
IEC 60617-13	1993	Part 13: Analogue elements	EN 60617-13	1993
IEC 60848	2002	GRAFCET specification language for sequential function charts	EN 60848	2002
IEC 61131-1	- ¹⁾	Programmable controllers Part 1: General information	EN 61131-1	1994 ²⁾
IEC 61131-5	- ¹⁾	Part 5: Communications	EN 61131-5	2001 ²⁾
ISO/AFNOR	1989	Dictionary of computer science - The standardised vocabulary	-	-
ISO/IEC 10646-1	1993	Information technology - Universal Multiple-Octet Coded Character set (UCS) - Part 1: Architecture and Basic Multilingual Plane	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

INTERNATIONAL STANDARD

Programmable controllers –
Part 3: Programming languages

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IEC 61131-3

Edition 2.0 2003-01

INTERNATIONAL STANDARD

Programmable controllers –
Part 3: Programming languages

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

ICS 25.040; 35.240.50

ISBN 2-8318-6653-7

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PROGRAMMABLE CONTROLLERS –**Part 3: Programming languages**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61131-3 has been prepared by subcommittee 65B: Devices, of IEC technical committee 65: Industrial-process measurement and control.

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

FDIS	Report on voting
65B/456/FDIS	65B/465/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 second edition of IEC 61131-3 cancels and replaces the first edition, published in 1993, and constitutes a technical revision.

This International Standard has been reproduced without significant modification to its original contents or drafting.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

PROGRAMMABLE CONTROLLERS –

Part 3: Programming languages

1 General

1.1 Scope

This part of IEC 61131 specifies syntax and semantics of programming languages for *programmable controllers* as defined in part 1 of IEC 61131.

The functions of program entry, testing, monitoring, operating system, etc., are specified in Part 1 of IEC 61131.

1.2 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.

IEC 60050 (all parts): *International Electrotechnical Vocabulary (IEV)*

IEC 60559:1989, *Binary floating-point arithmetic for microprocessors systems*

IEC 60617-12:1997, *Graphical symbols for diagrams – Part 12: Binary logic elements*

IEC 60617-13:1993, *Graphical symbols for diagrams – Part 13: Analogue elements*

IEC 60848:2002, *GRAFCET specification language for sequential function charts*

IEC 61131-1, *Programmable controllers – Part 1: General information*

IEC 61131-5, *Programmable controllers – Part 5: Communications*

ISO/AFNOR: 1989, *Dictionary of computer science – The standardised vocabulary*

ISO/IEC 10646-1:1993, *Information technology – Universal Multiple-Octet Coded Character Set (UCS) – Part 1: Architecture and Basic Multilingual Plane*

1.3 Definitions

For the purposes of this part of IEC 61131, the following definitions apply. Definitions applying to all parts of IEC 61131 are given in part 1.

NOTE 1 Terms defined in this subclause are *italicized* where they appear in the bodies of definitions.

NOTE 2 The notation “(ISO)” following a definition indicates that the definition is taken from the ISO/AFNOR Dictionary of computer science.

NOTE 3 The ISO/AFNOR Dictionary of computer science and the IEC 60050 should be consulted for terms not defined in this standard.