

**SLOVENSKI
STANDARD**

SIST EN 61131-1:1998

prva izdaja
november 1998

Programmable controllers - Part 1: General information (IEC 61131-1:1992)

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ICS 25.040.40; 35.240.50

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ENGLISH VERSION

Programmable controllers
Part 1: General information
(IEC 1131-1:1992)

Automates programmables
Partie 1: Informations générales
(CEI 1131-1:1992)

Speicherprogrammierbare
Steuerungen
Teil 1: Allgemeine Informationen
(IEC 1131-1:1992)

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This European Standard was approved by CENELEC on 1994-03-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

<https://standards.iteh.ai/catalog/standards/sist/b3ac3d0e-d123-4766-9852-708731595a/sist/61131-1:1994>

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 1131-1:1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 61131-1 on 8 March 1994.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-03-15
- latest date of withdrawal of conflicting national standards (dow) 1995-03-15

For products which have complied with the relevant national standard before 1995-03-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-03-15.

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Annexes designated "normative" are part of the body of this standard. In this standard, annexes A, B and ZA are normative.

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The text of the International Standard IEC 1131-1:1992 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT 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.

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

IEC Publication	Date	Title	EN/HD	Date
-----	----	-----	-----	----
50(55)	1970	International Electrotechnical Vocabulary (IEV) Chapter 55: Telegraphy and telephony	-	-
50(303)	1983	Chapter 303: Electronic measuring instruments	-	-
50(351)	1975	Part 351: (Automatic control)	-	-
271	1974	List of basic terms, definitions and related mathematics for reliability	-	-
364-4-443	1990	Electrical installations of buildings Part 4: Protection for safety Chapter 44: Protection against overvoltages - Section 443: Protection against overvoltages of atmospheric origin or due to switching (Corrigendum 1990)	-	-
902	1987	Industrial-process measurement and control - Terms and definitions	-	-

Other publications quoted:

ISO 2382-1	1984	Data processing - Vocabulary Part 01: Fundamental terms
ISO 2382-4	1987	Information processing Vocabulary - Part 04: Organization of data
ISO 2382-5	1989	Information processing systems Vocabulary - Part 05: Representation of data
ISO/IEC 2382-7	1989	Information technology - Vocabulary Part 07: Computer programming

Other publications quoted:

ISO 2382-11	1987	Information processing systems Vocabulary Part 11: Processing units		
ISO 2382-15	1985	Data processing - Vocabulary Part 15: Programming languages		
ISO 8601	1988	Data elements and interchange formats Information interchange Representation of dates and times	EN 28601	1992
ISO/IEC 9506-1	1990	Industrial automation systems Manufacturing message specification Part 1: Service definition		
ISO/IEC 9506-2	1990	Industrial automation systems Manufacturing message specification Part 2: Protocol specification		

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INTERNATIONAL STANDARD

IEC 1131-1

First edition
1992-10

Programmable controllers –

Part 1: General information

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*Automates programmables –
(standards.iteh.ai)*

Partie 1:
Informations générales

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PROGRAMMABLE CONTROLLERS -

Part 1: General information

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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This part of the International Standard IEC 1131 has been prepared by sub-committee 65B: Devices, of IEC (technical committee No. 65: Industrial-process measurement and control).

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The text of this part is based on the following documents: ac3d0e-d123-4766-9852-798721a605cc/sist-en-61131-1-1998

Six Months' Rule	Report on Voting
65A(CO)21	65A(CO)26

Full information on the voting for the approval of this part can be found in the Voting Report indicated in the above table.

IEC 1131 will consist of the following parts, of which this is the first, under the general title: Programmable controllers.

- Part 1: 1992, General information.
- Part 2: 1992, Equipment requirements and tests.
- Part 3: Programming languages (being printed).
- Part 4: User guidelines (under consideration).
- Part 5: Messaging service specification (under consideration).

Annexes A and B form an integral part of this part.

INTRODUCTION

This part of IEC 1131 constitutes part 1 of a series of standards on programmable controllers and their associated peripherals and should be read in conjunction with the other parts of the series.

Where a conflict exists between this and other IEC standards (except basic safety standards), the provisions of this standard should be considered to govern in the area of programmable controllers and their associated peripherals.

Compliance with parts 1 and 2 of this standard cannot be claimed unless *all tests and verifications required in part 2 are complied with*. See 6.2 of IEC 1131-2 for details.

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PROGRAMMABLE CONTROLLERS -

Part 1: General information

1 General

1.1 Scope

The International Standard IEC 1131 applies to programmable controllers and their associated peripherals such as programming and debugging tools (PADTs), test equipment (TE) and man-machine interfaces (MMIs), etc.

Equipment covered in this standard is intended for use in overvoltage category II (see IEC 364-4-443), in low voltage installations, where the rated mains supply voltage does not exceed 1 000 V a.c. (50/60 Hz), or 1 500 V d.c., for the control and command of machines and industrial processes.

Programmable controllers and their associated peripherals are considered as components of a control system and may be provided as enclosed or open equipment. Therefore, *this standard does not deal with the automated system* in which the programmable controller system is but one basic component among many others including its application program.

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Since programmable controllers are components of an overall automated system safety including installation and application is beyond the scope of this standard. For further information, refer to IEC 1131-4 which is intended to help users in reducing the risks. However, electrical noise immunity and error detection of the PC-system operation such as the use of parity checking, self-testing diagnostics, etc., are addressed.

1.2 Object of the standard

The purposes of this standard are:

- to establish the definitions and identify the principal characteristics relevant to the selection and application of programmable controllers and their associated peripherals;
- to specify the minimum requirements for the functional characteristics, service conditions, construction characteristics, general safety and tests applicable to programmable controllers and their associated peripherals;
- to define, for each of the most commonly used programming languages, major fields of application, syntactic and semantic rules, simple but complete basic sets of programming elements, applicable tests and means by which manufacturers may expand or adapt those basic sets to their own programmable controller implementations;
- to give general tutorial information and application guidelines to the user;
- to define the communication between programmable controllers and other electronic systems using the Manufacturing Message Specification (MMS) defined in ISO/IEC 9506.