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# INTERNATIONAL STANDARD

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**Programmable controllers –  
Part 3: Programming languages**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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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- withdrawn;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, *GRAFNET 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*