
Programmable controllers - Part 2: Equipment requirements and tests

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EUROPEAN STANDARD

EN 61131-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2003

ICS 35.240.50; 25.040.40

Supersedes EN 61131-2:1994 + A11:1996 + A12:2000
Incorporates Corrigendum August 2003

English version

Programmable controllers
Part 2: Equipment requirements and tests
(IEC 61131-2:2003)

Automates programmables
Partie 2: Spécifications et essais des
équipements
(CEI 61131-2:2003)

Speicherprogrammierbare Steuerungen
Teil 2: Betriebsmittelanforderungen und
Prüfungen
(IEC 61131-2:2003)

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This European Standard was approved by CENELEC on 2003-05-01. 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.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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 text of document 65B/470A/FDIS, future edition 2 of IEC 61131-2, 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 61131-2 on 2003-05-01.

This European Standard supersedes EN 61131-2:1994 + A11:1996 + A12:2000.

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) 2004-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-05-01

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

Annexes designated "informative" are given for information only.

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

Annex ZA has been added by CENELEC.

The contents of the corrigendum of August 2003 have been included in this copy.

iTeh STANDARD PREVIEW (standards.iteh.ai) Endorsement notice

SIST EN 61131-2:2004

The text of the International Standard IEC 61131-2:2003 was approved by CENELEC as a European Standard without any modification. e1c6d78da395/sist-en-61131-2-2004

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60038	NOTE	Harmonized as HD 472 S1:1989 (modified)
IEC 60112	NOTE	IEC 60112:2003 is harmonized as EN 60112:2003 (not modified)
IEC 60445	NOTE	Harmonized as EN 60445:2000 (not modified)
IEC 60947-5-2	NOTE	Harmonized as EN 60947-5-2:1998 (modified)
IEC 61140	NOTE	Harmonized as EN 61140:2002 (not modified)
IEC 62079	NOTE	Harmonized as EN 62079:2001 (not modified)

Corrigendum to IEC 61131-2:2003:

In Table 41, **replace** "Table 64" by "Table D.2".

In Table 56, **replace** "Figure 13" by "Figure 12".

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 60068-2-1	1990	Environmental testing Part 2: Tests - Tests A: Cold	EN 60068-2-1	1993
IEC 60068-2-2	1974	Part 2: Tests - Test B: Dry heat	EN 60068-2-2 ¹⁾	1993
IEC 60068-2-6 + corr. March	1995 1995	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-14	1984	Part 2: Tests - Test N: Change of temperature	EN 60068-2-14 ²⁾	1999
IEC 60068-2-27	1987	Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60068-2-30	1980	Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)	EN 60068-2-30 ³⁾	1999
IEC 60068-2-31	1969	Part 2: Tests - Test Ec: Drop and topple, primarily for equipment-type specimens	EN 60068-2-31 ⁴⁾	1993
IEC 60068-2-32	1975	Part 2: Tests - Test Ed: Free fall	EN 60068-2-32 ⁵⁾	1991
IEC 60417	series	Graphical symbols for use on equipment	EN 60417	series
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr May	1991 1993

¹⁾ EN 60068-2-2 includes IEC 60068-2-2A:1976.

²⁾ EN 60068-2-14 includes A1:1986 to IEC 60068-2-14.

³⁾ EN 60068-2-30 includes A1:1985 to IEC 60068-2-30.

⁴⁾ EN 60068-2-31 includes A1:1982 to IEC 60068-2-31.

⁵⁾ EN 60068-2-32 includes A2:1990 to IEC 60068-2-32.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60664-1	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1 ⁶⁾	2003
IEC 60664-3	1992	Part 3: Use of coatings to achieve insulation coordination of printed board assemblies	HD 625.3 S1 ⁷⁾	1997
IEC 60695-2-1/x	series	Fire hazard testing Part 2: Test methods – Section 1: Glow-wire test and methods	EN 60695-2-1/x ⁸⁾	series
IEC 60707	1999	Flammability of solid non-metallic materials when exposed to flame sources - List of test methods	EN 60707	1999
IEC 60947-5-1	1997	Low-voltage switchgear and controlgear Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1 + A12	1997 1999
IEC 60947-7-1	2002	Part 7-1: Ancillary equipment - Terminal blocks for copper conductors	EN 60947-7-1	2002
IEC 60950-1 (mod)	2001	Information technology equipment - Safety Part 1: General requirements	EN 60950-1	2001
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 61000-4-3	2002	Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2002
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
IEC 61000-4-6	1996	Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996

⁶⁾ EN 60664-1 includes A1:2000 + A2:2002 to IEC 60664-1.

⁷⁾ HD 625.3 S1 is superseded by EN 60664-3:2003, which is based on IEC 60664-3:2003.

⁸⁾ EN 60695-2-1/x are superseded by EN 60695-2-10 to EN 60695-2-13:2001, Fire hazard testing, Part 2-1X: Glowing/hot-wire based test methods.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-8	1993	Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	1993
IEC 61000-4-12	1995	Part 4-12: Testing and measurement techniques - Oscillatory waves immunity test	EN 61000-4-12	1995
IEC 61010-1	2001	Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1: General requirements	EN 61010-1 + corr June	2001 2002
CISPR 11 (mod)	1997	Industrial, scientific and medical (ISM) radio-frequency equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55011	1998
A1	1999		A1	1999
CISPR 16-1	1999	Specification for radio disturbance and immunity measuring apparatus and methods Part 1: Radio disturbance and immunity measuring apparatus	-	-
CISPR 16-2	1996	Part 2: Methods of measurement of disturbances and immunity	-	-
A1	1999		-	-

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INTERNATIONAL STANDARD

IEC 61131-2

Second edition
2003-02

Programmable controllers –

Part 2: Equipment requirements and tests

Automates programmables –

*Partie 2:
Spécifications et essais des équipements*

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PRICE CODE

XA

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PROGRAMMABLE CONTROLLERS –

Part 2: Equipment requirements and tests

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 having liaisons 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 61131-2 has been prepared by subcommittee 65B: Devices, of IEC technical committee 65: Industrial-process measurement and control.

This second edition of IEC 61131-2 cancels and replaces the first edition published in 1992 and constitutes a technical revision.

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

FDIS	Report on voting
65B/470A/FDIS	65B/481/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.

[SIST EN 61131-2:2004](https://standards.iteh.ai/sist-en-61131-2-2004)

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

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IEC 61131 consists of the following parts under the general title *Programmable controllers*:

- Part 1: General information
- Part 2: Equipment requirements and tests
- Part 3: Programming languages
- Part 4: User guidelines
- Part 5: Communications
- Part 6: Reserved
- Part 7: Fuzzy control programming
- Part 8: Guidelines for the application and implementation of programming languages