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**IEC Publication 61131-4**

*Programmable Controllers  
Part 4: User Guidelines*

*Published by:*

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## Contents

Page

Foreword .....	ii
Referenced Standards .....	iii
Amendments .....	iv
IEC 61131-4 .....	1

## Foreword

This Standards Publication is a NEMA Authorized Engineering Information adopted from IEC 61131-4, *Programmable Controllers—Part 4: User Guidelines*. IEC 61131-4 has been published by the International Electrotechnical Commission as a Type 3 Technical Report.

This NEMA Standards Publication was supported and reviewed by the Programmable Controller Technical Committee of the NEMA Automation Products and Systems Section. It was approved in accordance with the bylaws of NEMA and supersedes applicable portions of NEMA Standards Publication ICS 3-1988, Part 3-304.

This Standards Publication represents many years of direct NEMA member participation in IEC Subcommittee 65B/Working Group 7, and reflects the input provided to the IEC from the Programmable Controller Technical Committee.

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Proposed revisions to this Standards Publication should be submitted to:

NEMA Technical Operations Department  
National Electrical Manufacturers Association  
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## **Referenced Standards**

This NEMA Standards Publication references standards published by the International Electrotechnical Commission (IEC), the International Organization for Standardization (ISO), and the National Fire Protection Association (NFPA). Copies of these standards are available from:

### **American National Standards Institute**

11 West 42nd Street

New York, NY 10036

## Amendments

IEC 61131-4, *Programmable Controllers—Part 4: User Guidelines*, is adopted in its entirety. Authorized Engineering Information

When the phrase “national code” or the like is used in ICS 61131-4, reference to ANSI/NFPA 70, *National Electrical Code*, and other applicable codes is to be understood.

Authorized Engineering Information

Where a conflict exists between the provisions of IA 2.4 and other NEMA Standards Publications, the provisions of IA 2.4 should take precedence in the area of programmable controllers and their associated peripherals. Authorized Engineering Information

TECHNICAL

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TR 61131-4

2004-07

Second edition

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**Programmable controllers –**

**Part 4:  
User guidelines**



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## Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

## Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

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# IEC TR 61131-4

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## Programmable controllers –

### Part 4: User guidelines

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## CONTENTS

1	General .....	8
1.1	Scope and object.....	8
1.2	Normative references .....	9
1.3	Use of this report .....	9 2
	Terms and definitions .....	10
3	General recommendations for installation .....	11 3.1
	Environmental conditions .....	11 3.2
	Field wiring .....	11
3.3	Electromagnetic compatibility .....	12
3.4	User system markings .....	13
4	PLC in functional safety applications .....	13
4.1	Functional safety and safety-related-system concept .....	13 4.2 Using a PLC in a safety-related application .....
	a PLC in a safety-related application .....	15 4.3 Requirements on PLCs in a safety-related system .....
	PLCs in a safety-related system .....	16
4.4	Integration of PLC into a safety-related system .....	16
Annex A (informative)	Overview of normative parts of IEC 61131 .....	19
A.1	Overview of IEC 61131-1 .....	19 A.2 Overview of IEC 61131-2 .....
	Overview of IEC 61131-2 .....	26 A.3 Overview of IEC 61131-3 .....
	of IEC 61131-3 .....	60 A.4 (blank) .....
	.....	89 A.5 Overview of IEC 61131-5 .....
	61131-5 .....	89 A.6 (blank) .....
	.....	101 A.7 Overview of IEC 61131-7 .....
	61131-7 .....	101
A.8	(blank) .....	108
Annex B (informative)	Conformity to IEC 61131 and product certification .....	109
B.1	General .....	109 B.2 Conformity to standards .....
	Conformity to standards .....	109 B.3 Declaration of conformity and certification .....
	Declaration of conformity and certification .....	110 B.4 The inter-relation of standards to laws in European Community .....
	The inter-relation of standards to laws in European Community .....	110 B.5 CE-marking of PLCs in the European Union .....
	PLCs in the European Union .....	112 B.6 Transition periods .....
	Transition periods .....	114 B.7 Other jurisdictions .....
	Other jurisdictions .....	115
B.8	Reference documents.....	116
Annex C (informative)	Use of PLC programming languages and examples .....	117
C.1	Preamble .....	117 C.2 Advance planning .....
	Advance planning .....	117 C.3 Structure and organization .....
	Structure and organization .....	118 C.4 Use of PLC languages .....
	Use of PLC languages .....	121 C.5 User Defined Function Block (DFB) .....
	User Defined Function Block (DFB) .....	128
C.6	Language implementation .....	131
Figure 1	– Object of user guidelines .....	8
Figure 2	– SRS in risk reduction concept .....	14
Figure 3	– Event tree analysis for deployment of SRS .....	18
Figure A.1	– Basic functional structure of a PLC system .....	21
Figure A.2	– PLC hardware model .....	22
Figure A.3	– Typical interface/port diagram of a PLC system .....	23
Figure A.4	– Type test EUT configuration .....	32
Figure A.5	– Digital I/O parameters .....	35
Figure A.6	– Immunity zones .....	47
Figure A.7	– Programmable Controller System (PLC system) .....	60

Figure A.8 – Software model .....	63
Figure A.9 – Combination of programmable controller language elements .....	65
Figure A.10 – Examples of function usage .....	70
Figure A.11 – Function block instantiation examples .....	71
Figure A.12 – Sequential function chart .....	72
Figure A.13 – Function block and program declarations for configuration example .....	80
Figure A.14 – The four programming languages .....	83
Figure A.15 – Boolean OR examples .....	88
Figure A.16 – Programming elements of Function Block Diagram language .....	88
Figure A.17 – Top-down and bottom-up programming .....	89
Figure A.18 – Scope of IEC 61131-5 .....	89
Figure A.19 – Relationship of the communication model to IEC 61131-2 and IEC 61131-3 .....	91
Figure A.20 – Programmable controller communication model .....	92
Figure A.21 – Example of communication control in FBD language .....	100
Figure A.22 – Example of a fuzzy control in FBD program.....	102
Figure A.23 – Example of ramp curve membership functions .....	103
Figure A.24 – Defuzzification program block .....	103
Figure A.25 – Example of singleton terms .....	103
Figure C.1 – Program structure overview .....	119
Figure C.2 – Program structure with detail .....	120
Figure C.3 – The structured program plan for brewing process automation with various languages .....	122 Figure
C.4 – Example of a program in IL language.....	123
Figure C.5 – Example of a program in ST language .....	124
Figure C.6 – Example of a control program in LD language .....	125
Figure C.7 – An example of a control program in FBD language .....	126
Figure C.8 – A control program in SFC .....	127
Figure C.9 – A DFB for valve control .....	128
Figure C.10 – DFB for valve actuation .....	129 Figure
C.11 – DFB for alarm actuation .....	130
Table 1 – Environmental conditions .....	11
Table 2 – Installation rules: earthing measures .....	12
Table 3 – Installation rules: EMC .....	12
Table 4 – SIL of demand mode safety functions .....	14
Table 5 – SIL of continuous mode safety functions .....	14 Table A.1
– Summary of programmable functions .....	24
Table A.2 – General conditions for tests .....	32
Table A.3 – Operating ambient air temperature of PLC systems .....	33
Table A.4 – Emission limits .....	46
Table A.5 – Criteria to prove the performance of a PLC-system against EMC disturbances .....	48 Table
A.6 – Voltage drops and interruptions .....	48

Table A.7 – Shock protection requirements for open and enclosed equipment .....	51
Table A.8 – Temperature limits .....	53
Table A.9 – Data type declaration features .....	68
Table A.10 – Location and size prefix features for directly represented variables .....	68
Table A.11 – Variable usage .....	69
Table A.12 – Examples of function block I/O variable usage .....	71
Table A.13 – Step features .....	73
Table A.14 – Transition and transition conditions .....	74
Table A.15 – Declaration of action .....	76
Table A.16 – Step/action association .....	78
Table A.17 – Action block features .....	79
Table A.18 – Configuration and resource declaration features .....	80
Table A.19 – Examples of configuration and resource declaration features .....	81
Table A.20 – Operators of Instruction List language .....	84
Table A.21 – Operators of the ST language .....	85
Table A.22 – ST language statements: .....	85
Table A.23 – Status presenting entities .....	93
Table A.24 – PLC summary status .....	94
Table A.25 – Status of I/O subsystem .....	95
Table A.26 – Status of processing unit .....	95
Table A.27 – PLC application functions .....	96
Table A.28 – Meaning of value of I/O state .....	98
Table A.29 – List of communication function blocks .....	99
Table A.30 – Semantic of communication function block parameters.....	99
Table A.31 – Defuzzification methods .....	104
Table A.32 – Priority of rule block operators .....	104
Table A.33 – Fuzzy logic control basic level language elements .....	106
Table A.34 – Fuzzy logic control extension level language elements (optional) .....	106
Table A.35 – Fuzzy logic control data check list .....	107

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**PROGRAMMABLE CONTROLLERS – Part 4 – User guidelines**

FOREWORD

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This part of the International Standard IEC 61131 has been prepared by subcommittee 65B: Devices, of IEC Technical Committee 65: Industrial-process measurement and control.

This second edition cancels and replaces the first edition published in 1995. It constitutes a technical revision.

This second edition of IEC 61131-4 differs extensively from the first edition. The first edition, IEC 61131-4:1995, initiated some twenty years ago, was mainly tutorial in nature. The present revision aims to provide an engineering overview of the IEC 61131 series for the end-user of PLC equipment who may not be expected to delve into the details of the extensive product standard that is IEC 61131.

The purpose of this revision is therefore to assist the end-users of PLCs to make efficient and effective use of the IEC 61131 series, and to realise the benefit of IEC standard compliant programmable controllers. This revised Technical Report serves as a quick reference and roadmap. Many of the IEC 61131 parts have gone through their maintenance cycle revisions. This revision of IEC 61131-4 is based on the latest revisions available.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
65B/508A/DTR	65B/527/RVC

Full information on the voting for the approval of this technical report 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.

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 7: Fuzzy control programming

Part 8: Guidelines for the application and implementation of programming languages

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

A bilingual version of this Technical Report may be issued at a later date.

## INTRODUCTION

This part of IEC 61131 constitutes the fourth part of a series of standards on programmable controllers and the 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.

Terms of general use are defined in IEC 61131-1. More specific terms are defined in each part.

## **PROGRAMMABLE CONTROLLERS – Part 4: User guidelines**

### **1 General**

#### **1.1 Scope and object**

The object of this Technical report is to introduce the end-users of Programmable Controller (PLC) to the IEC 61131 series, and to assist the end-users in their selection and specification of their PLC equipment according to the IEC 61131 series. This user guideline has as its main audience PLC end-users.

PLCs, their application program and their associated peripherals are considered as components of a control system. Therefore, PLC users should take note that this standard does not deal with the automated system in which the PLC and PLC system is but one component. However, when applying this user guideline, an overall system architecture evaluation is recommended. Functional safety of the overall automated system is beyond the scope of this standard.