Programmable controllers

Part 4: User guidelines

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- Australian Computer Society
- Australian Industry Group
- Australian Petroleum Production and Exploration Association
- Australian Safety Critical Systems Association
- Consult Australia
- Engineers Australia
- Institute of Chemical Engineers Australia
- Institute of Instrumentation, Control and Automation Australia
- ISACA
- Process Control Society
- University of Queensland
- Workplace Health and Safety Queensland

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Australian Standard®

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Part 4: User guidelines

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-006, Industrial Process Measurement, Control and Automation, to supersede AS IEC 61131.4—2004.

The objective of this Standard is to introduce the end-users of Programmable Controllers (PLCs) to the AS IEC 61131 series, and to assist the end-users in their selection and specification of PLC equipment according to the AS IEC 61131 series. This user guideline has as its main audience PLC end-users.

This Standard should be read in conjunction with the other parts of the AS IEC 61131 series.

This Standard is identical with, and has been reproduced from, IEC/TR 61131-4, Ed. 2.0 (2004), *Programmable controllers*—Part 4: *User guidelines*.

This edition differs extensively from the previous (2004) edition. Whereas the previous edition was mainly tutorial in nature, this edition aims to provide an engineering overview of the AS IEC 61131 series for those end-users of PLCs who may not be expected to delve into the extensive details of the AS 61131 series, but wish to understand the benefit of using AS IEC 61131 compliant PLCs.

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text ‘this part of IEC 61131’ should read ‘this Australian Standard’.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
IEC		AS IEC	
61131	Programmable controllers	61131	Programmable controllers
61131-1	Part 1: General information	61131.1	Part 1: General information
61131-2	Part 2: Equipment requirements and tests	61131.2	Part 2: Equipment requirements and tests
61131-3	Part 3: Programming languages	61131.3	Part 3: Programming languages
61131-5	Part 5: Communications	61131.5	Part 5: Communications
61131-7	Part 7: Fuzzy control programming	61131.7	Part 7: Fuzzy control programming
61131-8	Part 8: Guidelines for the application and implementation of programming languages	61131.8	Part 8: Guidelines for the application and implementation of programming languages

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

CONTENTS

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.

AUSTRALIAN STANDARD

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.

An objective of this user guideline is to facilitate communication between the PLC user and PLC supplier according to the specifications of the IEC 61131 series that applies to PLCs and their associated peripherals. This information exchange is illustrated in Figure 1.

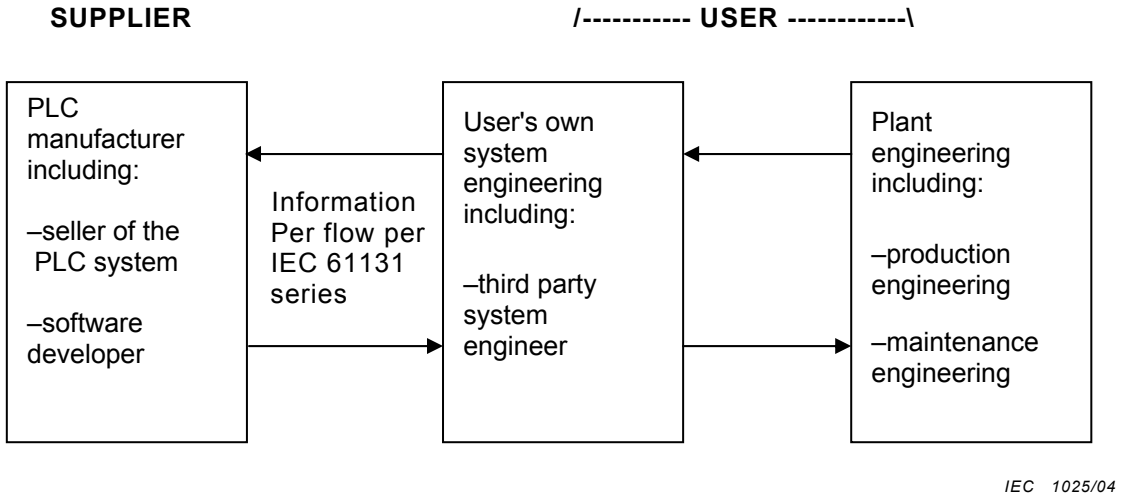

Figure 1 – Object of user guidelines