This is a free page sample. Access the full version online.

AS IEC 61131.5—2004
IEC 61131-5:2000

Australian Standard™

Programmable controllers

Part 5: Communications

STANDARDS AUSTRALIA

This is a free page sample. Access the full version online.

This Australian Standard was prepared by Committee IT-006, Information Technology for Industrial Automation. It was approved on behalf of the Council of Standards Australia on 15 January 2004 and published on 22 March 2004.

The following are represented on Committee IT-006:

Association of Consulting Engineers Australia

Australian Electrical and Electronic Manufacturers Association

CSIRO Centre for Planning and Design

CSIRO Manufacturing and Infrastructure Technology

Department of Defence, Australia

Institute of Instrumentation, Control and Automation Australia

Institution of Engineers Australia

Monash University

RMIT University

University of Melbourne

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 03591.

This is a free page sample. Access the full version online.

Australian Standard™

Programmable controllers

Part 5: Communications

First published as AS IEC 61131.5—2004.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5774 X

This is a free page sample. Access the full version online.

PREFACE

This Standard was prepared by the Standards Australia Committee IT-006, Information Technology for Industrial Automation.

This Standard is identical with, and has been reproduced from, IEC 61131-5:2000, *Programmable controllers*—Part 5: *Communications*.

The objective of this Standard is to establish the definitions and identify the principal characteristics relevant to the selection and application of programmable controllers and their associated peripherals.

This Standard is Part 5 of AS IEC 61131 *Programmable controllers*, which consists of the following:

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

AS IEC 61131 does not have a Part 6. A project to develop IEC 61131-6 *Programmable controller communications via field bus* was deleted in September 2000 by the IEC.

In this Standard, the following print types are used:

– requirements proper: in arial type;

– *test specifications: in italic type;*

– explanatory matter: in smaller arial type.

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

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this part of IEC 61131’ should read ‘this part of AS IEC 61131’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

This is a free page sample. Access the full version online.

CONTENTS

Page

1 Scope ... 1
2 Normative references ... 1
3 Definitions ... 2
4 Symbols and abbreviations ... 4
5 Models ... 4
5.1 PC network communication model ... 4
5.2 PC functional model ... 5
5.3 PC hardware model ... 7
5.4 Software model ... 7
6 PC communication services ... 8
6.1 PC subsystems and their status ... 8
6.1.1 PC summary status ... 9
6.1.2 I/O subsystem ... 10
6.1.3 Processing unit ... 11
6.1.4 Power supply subsystem ... 12
6.1.5 Memory subsystem ... 12
6.1.6 Communication subsystem ... 13
6.1.7 Implementer specific subsystems ... 13
6.1.8 Presentation of status information ... 14
6.2 Application specific functions ... 15
6.2.1 Device verification ... 16
6.2.2 Data acquisition ... 16
6.2.3 Control ... 17
6.2.4 Synchronization between user applications ... 18
6.2.5 Alarm reporting ... 18
6.2.6 Application program execution and I/O control ... 18
6.2.7 Application program transfer ... 20
6.2.8 Connection management ... 21
7 PC communication function blocks ... 21
7.1 Overview of the communication function blocks ... 21
7.1.1 Device verification ... 22
7.1.2 Data acquisition ... 22
7.1.3 Control ... 22
7.1.4 Alarm reporting ... 22
7.1.5 Connection management ... 22
7.2 Semantic of communication FB parameters ... 22
7.3 Device verification ... 27
7.4 Polled data acquisition ... 31
7.5 Programmed data acquisition ... 34
7.5.1 USEND/URCV function blocks ... 34
7.5.2 BSEND / BRCV Function Blocks ... 39
7.6 Parametric control ... 44
7.7 Interlocked control ... 47
7.8 Programmed alarm report ... 54

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation