

AS IEC 61131.2—2004
IEC 61131-2:2003

AS IEC 61131.2

Australian Standard™

Programmable controllers

Part 2: Equipment requirements and tests

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
DSIRO Manufacturing and Infrastructure Technology
Department of Defence, Australia
Institute of Instrumentation, Control and Automation, Australia
Institution of Engineers Australia
Monash University
RMIT University
The 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 Standards may also be withdrawn.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.

AS IEC 61131.2—2004

Australian Standard™

Programmable controllers

Part 2: Equipment requirements and tests

Originated as AS 4168.2—1994.
Revised and redesignated as AS IEC 61131.2—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 5771 5

PREFACE

This Standard was prepared by the Standards Australia Committee IT-006, Information Technology for Industrial Automation to supersede AS 4168.2—1994, *Programmable controllers*, Part 2: *requirements and tests*.

This Standard is identical with, and has been reproduced from, IEC 61131-2:2003, *Programmable controllers—Part 2: Equipment requirements and tests*.

The objective of this Standard is to specify requirements and related tests for programmable controllers (PLC) and their associated peripherals (for example, programming and debugging tools (PADTs), human-machine interfaces (HMIs), etc.) which have as their intended use the control and command of machines and industrial processes.

This Standard is Part 2 of AS IEC 61131 *Programmable controllers*, which consists of the following:

Part 1: General information

Part 2: Equipment requirements and tests (this Standard)

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

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.

CONTENTS

	<i>Page</i>
INTRODUCTION	ix
1 General.....	1
1.1 Scope and object	1
1.2 Compliance with this standard	2
1.3 Normative references	3
2 Type tests	5
2.1 Equipment to be tested (equipment under test/EUT)	5
2.2 Special features for immunity and EMC tests	7
2.3 Withstand test conditions	8
2.4 Verification procedure	8
2.5 Requirements for test programmes and proper functioning verification procedures (PFVPs) to be provided by the manufacturer	8
2.6 General conditions for tests	9
3 Terms and definitions	9
4 Normal service conditions and requirements	16
4.1 Climatic conditions and requirements	16
4.1.1 Operating ambient air temperature	16
4.1.2 Relative humidity	17
4.1.3 Altitude	17
4.1.4 Pollution degree	17
4.2 Mechanical service conditions and requirements	17
4.2.1 Vibrations	17
4.2.2 Shock	18
4.2.3 Free falls (portable and hand-held equipment)	18
4.3 Transport and storage conditions and requirements	18
4.3.1 Temperature	19
4.3.2 Altitude	19
4.3.3 Free falls (PLC units in manufacturer's original packaging)	19
4.3.4 Other conditions	19
4.4 Electrical service conditions and requirements	19
4.4.1 AC and d.c. mains power supply	19
4.4.2 Overvoltage category, control of transient overvoltages	19
4.4.3 Non-periodic overvoltages	20
4.5 Special conditions and requirements	20
5 Functional requirements	20
5.1 Functional power supply and memory back-up requirements	22
5.1.1 AC and d.c. power supply	22
5.1.2 Memory back-up	23
5.2 Digital I/Os	23
5.2.1 Digital inputs (current sinking)	24
5.2.2 Terminology (U/I operation regions)	24
5.2.3 Standard operating ranges for digital inputs (current sinking)	26
5.2.4 Additional requirements	26
5.2.5 Digital outputs for alternating currents (current sourcing)	26
5.2.6 Digital outputs for direct current (current sourcing)	29

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
-