AS IEC 61131.6:2014 IEC 61131-6:2012



Programmable controllers

Part 6: Functional safety



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This Australian Standard® was prepared by Committee IT-006, Industrial Process Measurement, Control and Automation. It was approved on behalf of the Council of Standards Australia on 28 May 2014. This Standard was published on 27 June 2014.

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This Standard was issued in draft form for comment as DR 102270.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

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First published as AS IEC 61131.6:2014.

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Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 74342 781 1

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-006, Industrial Process Measurement, Control and Automation.

The objective of this Standard is to specify product-specific requirements of AS 61508.1—2011, AS 61508.2—2011 and AS 61508.3—2011 for functional safety programmable logic controllers (FS-PLC) and their associated peripherals. Some aspects do not have a direct correlation with the AS 61508 series structure and are addressed somewhat differently. In part, this is due to addressing hardware, software, firmware, etc., in a single document.

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

This Standard is identical with and has been reproduced from IEC 61311-6, Ed.1.0 (2012) *Programmable controllers*, Part 6: *Functional Safety*.

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

- (a) Its number appears on the cover and title page, while the International Standard number appears only on the cover.
- (b) In the source text, 'this part of IEC 61131' should read 'this Australian Standard'.
- (c) 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 or Austra | ian/New Zee | aland Standard |
|----------------------|-------------|----------------|
|----------------------|-------------|----------------|

| IEC | | AS | |
|-----------|---|-----------|--|
| 60947-5-1 | Low-voltage switchgear and controlgear—Part 5-1: Control circuit devices and switching elements—Electromechanical control circuit devices | 60947.5.1 | Low-voltage switchgear and controlgear—Control circuit devices and switching elements— Electromechanical control circuit devices |
| 61508 | Functional safety of electrical/electronic/programmable electronic safety related systems | 61508 | Functional safety of electrical/electronic/programmable electronic safety-related systems |
| 61508-1 | Part 1: General requirements | 61508.1 | Part 1: General requirements |
| 61508-2 | Part 2: Requirements for | 61508.2 | Part 2: Requirements for |
| | electrical/electronic/programmable electronic safety-related systems | | electrical/electronic/programmable electronic safety-related systems |
| 61508-3 | Part 3: Software requirements | 61508.3 | Part 3:Software requirements |
| 61508-6 | Part 6: Guidelines on the application of IEC 61508-2 and IEC 61508-3 | 61508.6 | Part 6: Guidelines on the application of IEC 61508-2 and IEC 61508-3 |
| 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 |
| 61131-4 | Part 4: User guidelines | 61131.4 | Part 4:User guidelines |

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| IEC | | AS/NZS | |
|-----------|---|-------------|---|
| 61000 | Electromagnetic compatibility | 61000 | Electromagnetic compatibility (EMC) |
| | (EMC) | | _ , , _ |
| 61000-4-5 | Part 4-5: Testing and measurement techniques—Surge immunity test | 61000.4.5 | Part 4.5: Testing and measurement techniques—Surge immunity test |
| 61000-4-8 | Part 4-8: Testing and measurement techniques—Power frequency magnetic field immunity test | 61000.4.8 | Part 4.8: Testing and measurement techniques—Power frequency magnetic field immunity test |
| IEC | | AS/NZS II | EC |
| 61000 | Electromagnetic compatibility | 61000 | Electromagnetic compatibility (EMC) |
| | (EMC) | | |
| 61000-4-2 | Part 4-2: Testing and measurement | 61000.4.2 | Part 4.2: Testing and measurement |
| | techniques—Electrostatic discharge immunity test | | techniques—Electrostatic discharge immunity test |
| 61000-4-3 | Part 4-3: Testing and measurement | 61000.4.3 | Part 4.3: Testing and measurement |
| | techniques—Radiated, radio- | | techniques—Radiated, radio- |
| | frequency, electromagnetic field | | frequency, electromagnetic field |
| | immunity test | | immunity test |
| 61000-4-4 | Part 4-4: Testing and measurement | 61000.4.4 | Part 4.4: Testing and measurement |
| | techniques—Electrical fast | | techniques—Electrical fast |
| | transient/burst immunity test | | transient/burst immunity test |
| Only norm | ative references that have been adopted | ag Augtrali | on or Australian/New Zealand Standard |

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.



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