



Programmable controllers

Part 6: Functional safety



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 - Australian Computer Society
 - Australian Industry Group
 - Australian Petroleum Production and Exploration Association
 - Consult Australia
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 - Institute of Chemical Engineers Australia
 - Institute of Instrumentation, Control and Automation
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Australian Standard[®]

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

<i>Reference to International Standard</i>	<i>Australian or Australian/New Zealand Standard</i>
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 electrical/electronic/programmable electronic safety-related systems	61508.2 Part 2: Requirements for 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

IEC 61000	Electromagnetic compatibility (EMC)	AS/NZS 61000	Electromagnetic compatibility (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 61000	Electromagnetic compatibility (EMC)	AS/NZS IEC 61000	Electromagnetic compatibility (EMC)
61000-4-2	Part 4-2: Testing and measurement techniques—Electrostatic discharge immunity test	61000.4.2	Part 4.2: Testing and measurement techniques—Electrostatic discharge immunity test
61000-4-3	Part 4-3: Testing and measurement techniques—Radiated, radio-frequency, electromagnetic field immunity test	61000.4.3	Part 4.3: Testing and measurement techniques—Radiated, radio-frequency, electromagnetic field immunity test
61000-4-4	Part 4-4: Testing and measurement techniques—Electrical fast transient/burst immunity test	61000.4.4	Part 4.4: Testing and measurement techniques—Electrical fast transient/burst immunity test

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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