

Australian Standard™

**Safety requirements for electrical
equipment for measurement, control
and laboratory use—**

**Part 1: General requirements
(IEC 61010-1:2001 MOD)**

This Australian Standard was prepared by Committee EL-049, Safety of Electrical Equipment for Measurement and Laboratory Use. It was approved on behalf of the Council of Standards Australia on 17 June 2003 and published on 30 June 2003.

The following are represented on Committee EL-049:

Australian Chamber of Commerce and Industry
Bureau of Steel Manufacturers of Australia
Department of Mineral Resources
Electrical Compliance Testing Association
Hunter Industries Electrical Safety Network

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STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 61010.1—2003

**Safety requirements for electrical equipment for measurement, control and
laboratory use —**

Part 1: General requirements (IEC 61010-1:2001 MOD)

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Electrical Compliance Testing Association

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-049, Safety of Electrical Equipment for Measurement and Laboratory Use.

The objective of this Standard is to specify the general safety requirements that are generally applicable for electrical measurement, control and laboratory equipment intended for professional, industrial process and educational purposes. The essential safety requirements specified in AS/NZS 3820 that apply to electrical equipment for measurement, control and laboratory use are covered in this Standard.

This Standard is an adoption with national modifications and has been reproduced from IEC 61010-1:2001, *Safety requirements for electrical equipment for measurement, control, and laboratory use—Part 1: General requirements*, and has been varied as indicated to take account of Australian conditions. This Standard includes IEC Corrigendum 1:2001 and Corrigendum 2:2003.

Variations to IEC 61010-1:2001 are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC text, tables and figures which, for the purposes of this Australian Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border. The variations are also included in a new Annex ZZ for easy reference.

Annex ZA lists alternate requirements for Australian conditions on resistance to fire.

Additional safety requirements for other allied equipment are to be covered in the relevant Part 2 series of Standards. These are intended to be published in the near future.

The Committee is also considering the publication of a handbook for guidance on the safe use of electrical test measurement equipment, some time in the future.

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

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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.

CONTENTS

	<i>Page</i>
Introduction.....	ix
1 Scope and object.....	1
1.1 Scope.....	1
1.1.1 Equipment included in scope	1
1.1.2 Equipment excluded from scope	1
1.1.3 Computing equipment.....	2
1.2 Object	2
1.2.1 Aspects included in scope	2
1.2.2 Aspects excluded from scope	2
1.3 Verification	2
1.4 Environmental conditions	3
1.4.1 Normal environmental conditions	3
1.4.2 Extended environmental conditions	3
2 Normative references	3
3 Terms and definitions	5
3.1 Equipment and states of equipment.....	5
3.2 Parts and accessories	6
3.3 Electrical quantities	6
3.4 Tests.....	7
3.5 Safety terms.....	7
3.6 Insulation	8
4 Tests.....	9
4.1 General.....	9
4.2 Sequence of tests	10
4.3 Reference test conditions	10
4.3.1 Environmental conditions.....	10
4.3.2 State of equipment	10
4.4 Testing in SINGLE FAULT CONDITION	12
4.4.1 General	12
4.4.2 Application of fault conditions	12
4.4.3 Duration of tests	14
4.4.4 Conformity after application of fault conditions.....	15
5 Marking and documentation.....	15
5.1 Marking	15
5.1.1 General	15
5.1.2 Identification.....	16
5.1.3 MAINS supply	16
5.1.4 Fuses	17
5.1.5 TERMINALS, connections and operating devices.....	18
5.1.6 Switches and circuit-breakers	19
5.1.7 Equipment protected by DOUBLE INSULATION OF REINFORCED INSULATION.....	19
5.1.8 Field-wiring TERMINAL boxes	19

	<i>Page</i>	
5.2	Warning markings	19
5.3	Durability of markings.....	20
5.4	Documentation	20
5.4.1	General	20
5.4.2	Equipment RATINGS.....	21
5.4.3	Equipment installation	21
5.4.4	Equipment operation.....	21
5.4.5	Equipment maintenance	22
6	Protection against electric shock	22
6.1	General	22
6.1.1	Requirements	22
6.1.2	Exceptions.....	22
6.2	Determination of ACCESSIBLE parts.....	23
6.2.1	Examination	23
6.2.2	Openings above parts that are HAZARDOUS LIVE	23
6.2.3	Openings for pre-set controls	23
6.3	Permissible limits for ACCESSIBLE parts	23
6.3.1	Values in NORMAL CONDITION	24
6.3.2	Values in SINGLE FAULT CONDITION	24
6.4	Protection in NORMAL CONDITION.....	27
6.5	Protection in SINGLE FAULT CONDITION.....	27
6.5.1	PROTECTIVE BONDING.....	27
6.5.2	DOUBLE INSULATION and REINFORCED INSULATION.....	30
6.5.3	PROTECTIVE IMPEDANCE	30
6.5.4	Automatic disconnection of the supply	31
6.6	Connections to external circuits.....	31
6.6.1	General	31
6.6.2	TERMINALS for external circuits.....	32
6.6.3	Circuits with TERMINALS which are HAZARDOUS LIVE.....	32
6.6.4	ACCESSIBLE TERMINALS for stranded conductors	32
6.7	CLEARANCES and CREEPAGE DISTANCES	32
6.7.1	General requirements	33
6.7.2	MAINS CIRCUITS	34
6.7.3	Circuits other than MAINS CIRCUITS	34
6.7.4	Measuring circuits	39
6.8	Procedure for dielectric strength tests	40
6.8.1	Reference test earth	40
6.8.2	Humidity preconditioning	40
6.8.3	Conduct of tests	40
6.8.4	Voltage tests	41
6.9	Constructional requirements for protection against electric shock.....	43
6.9.1	General	43
6.9.2	ENCLOSURES of equipment with DOUBLE INSULATION or REINFORCED INSULATION.....	43
6.9.3	Over-range indication	44
6.10	Connection to MAINS supply source and connections between parts of equipment	44
6.10.1	MAINS supply cords.....	44
6.10.2	Fitting of non-detachable MAINS supply cords.....	45

6.10.3	Plugs and connectors	46
6.11	Disconnection from supply source	46
6.11.1	General	46
6.11.2	Requirements according to type of equipment	47
6.11.3	Disconnecting devices	48
7	Protection against mechanical HAZARDS	48
7.1	General	48
7.2	Moving parts	48
7.3	Stability	49
7.4	Provisions for lifting and carrying	49
7.5	Wall mounting	50
7.6	Expelled parts	50
8	Mechanical resistance to shock and impact	50
8.1	ENCLOSURE rigidity test	51
8.1.1	Static test	51
8.1.2	Dynamic test	51
8.2	Drop test	52
8.2.1	Equipment other than HAND-HELD EQUIPMENT and direct plug-in equipment	52
8.2.2	HAND-HELD EQUIPMENT and direct plug-in equipment	53
9	Protection against the spread of fire	53
9.1	Eliminating or reducing the sources of ignition within the equipment	54
9.2	Containment of fire within the equipment, should it occur	55
9.2.1	Constructional requirements	55
9.3	Limited-energy circuit	57
9.4	Requirements for equipment containing or using flammable liquids	58
9.5	Overcurrent protection	59
9.5.1	PERMANENTLY CONNECTED EQUIPMENT	59
9.5.2	Other equipment	59
10	Equipment temperature limits and resistance to heat	59
10.1	Surface temperature limits for protection against burns	59
10.2	Temperatures of windings	60
10.3	Other temperature measurements	60
10.4	Conduct of temperature tests	61
10.4.1	Temperature measurement of heating equipment	61
10.4.2	Equipment intended for installation in a cabinet or a wall	61
10.5	Resistance to heat	61
10.5.1	Integrity of CLEARANCES and CREEPAGE DISTANCES	61
10.5.2	Non-metallic ENCLOSURES	62
10.5.3	Insulating material	62
11	Protection against HAZARDS from fluids	63
11.1	General	63
11.2	Cleaning	63
11.3	Spillage	63
11.4	Overflow	64
11.5	Battery electrolyte	64
11.6	Specially protected equipment	64

	<i>Page</i>
11.7 Fluid pressure and leakage	64
11.7.1 Maximum pressure	64
11.7.2 Leakage and rupture at high pressure	65
11.7.3 Leakage from low-pressure parts	65
11.7.4 Overpressure safety device	66
12 Protection against radiation, including laser sources, and against sonic and ultrasonic pressure	66
12.1 General	66
12.2 Equipment producing ionizing radiation	67
12.2.1 Ionizing radiation	67
12.2.2 Accelerated electrons	67
12.3 Ultraviolet (UV) radiation	67
12.4 Microwave radiation	67
12.5 Sonic and ultrasonic pressure	67
12.5.1 Sound level	67
12.5.2 Ultrasonic pressure	68
12.6 Laser sources	68
13 Protection against liberated gases, explosion and implosion	68
13.1 Poisonous and injurious gases	68
13.2 Explosion and implosion	69
13.2.1 Components	69
13.2.2 Batteries and battery charging	69
13.2.3 Implosion of cathode ray tubes	69
13.2.4 Equipment RATED for high pressures	70
14 Components	70
14.1 General	70
14.2 Motors	71
14.2.1 Motor temperatures	71
14.2.2 Series excitation motors	72
14.3 Over-temperature protection devices	72
14.4 Fuse holders	72
14.5 MAINS voltage selecting devices	72
14.6 HIGH INTEGRITY components	73
14.7 MAINS transformers tested outside equipment	73
14.8 Printed circuit boards	73
14.9 Circuits or components used as transient overvoltage limiting devices	73
15 Protection by interlocks	74
15.1 General	74
15.2 Prevention of reactivating	74
15.3 Reliability	74
16 Test and measurement equipment	75
16.1 Current measuring circuits	75
16.2 Multifunction meters and similar equipment	75
Annex A (normative) Measuring circuits for ACCESSIBLE current (see 6.3)	76
Annex B (normative) Standard test finger (see 6.2)	79
Annex C (normative) Measurement of CLEARANCES and CREEPAGE DISTANCES	81

	<i>Page</i>
Annex D (normative) Parts between which insulation requirements are specified (see 6.4 and 6.5.2).....	86
Annex E (normative) Reduction of POLLUTION degrees	89
Annex F (normative) ROUTINE TESTS	90
Annex G (informative) Leakage and rupture from fluids under pressure	91
Annex H (informative) Index of defined terms.....	96
Annex ZA (normative) Resistance to fire	99
Annex ZZ (normative) Variations to IEC 61010-1:2001 for application in Australia and New Zealand	102
Figure 1 – Maximum duration of short-term temporary ACCESSIBLE voltages in SINGLE FAULT CONDITION	25
Figure 2 – Charged capacitance level in NORMAL CONDITION and SINGLE FAULT CONDITION	26
Figure 3 – Detachable MAINS supply cords and connections	45
Figure 4 – Impact test using sphere	52
Figure 5 – Flow chart to explain the requirements for protection against the spread of fire	54
Figure 6 – Baffle	56
Figure 7 – Area of the bottom of an ENCLOSURE to be constructed as specified in 9.2.1 b)1).....	57
Figure 8 – Ball-pressure test apparatus	63
Figure 9 – Ratio between hydraulic test pressure and RATED maximum working pressure	66
Figure 10 – Flow chart for conformity options 14.1 a), b), c) and d).....	71
Figure A.1 – Measuring circuit for a.c. with frequencies up to 1 MHz and for d.c.	76
Figure A.2 – Measuring circuits for a.c. with sinusoidal frequencies up to 100 Hz and for d.c.	77
Figure A.3 – Current measuring circuit for electrical burns	78
Figure A.4 – Current measuring circuit for wet contact.....	78
Figure B.1 – Rigid test finger (test probe 11 of IEC 61032)	79
Figure B.2 – Jointed test finger (test probe B of IEC 61032).....	80
Figure C.1 – Examples of methods of measuring CLEARANCE and CREEPAGE DISTANCES.....	85
Figures D.1 a) to D.1 d) – Protection between HAZARDOUS LIVE circuits and circuits not exceeding the values of 6.3.2 in NORMAL CONDITION and having external TERMINALS of ACCESSIBLE parts.....	86
Figures D.1 e) to D.1 h) – Protection between HAZARDOUS LIVE circuits and other circuits which do not exceed the values of 6.3.2 in NORMAL CONDITION and which have external TERMINALS	87
Figure D.2 a) and D.2 b) – Protection from a HAZARDOUS LIVE internal circuit for an ACCESSIBLE part which is not bonded to other ACCESSIBLE parts	87
Figure D.2 c) and D.2 d) – Protection from a HAZARDOUS LIVE primary circuit for ACCESSIBLE TERMINALS of a secondary circuit which does not exceed the values of 6.3.2 in NORMAL CONDITION	88
Figure D.3 – Protection of external ACCESSIBLE TERMINALS of two HAZARDOUS LIVE circuits.....	88
Figure G.1 – Conformity verification process	92

	<i>Page</i>
Table 1 – Symbols	17
Table 2 – Tightening torque for screw assemblies	29
Table 3 – Multiplication factors for CLEARANCE for altitudes up to 5 000 m	33
Table 4 – CLEARANCES and CREEPAGE DISTANCES for MAINS CIRCUITS	34
Table 5 – CLEARANCES for circuits derived from MAINS CIRCUITS	36
Table 6 – CLEARANCE values for the calculation of 6.7.3.2	37
Table 7 – CREEPAGE DISTANCES	38
Table 8 – CLEARANCES for measurement categories II, III and IV	39
Table 9 – Test voltages for BASIC INSULATION	42
Table 10 – Correction factors for test voltage according to test site altitude	43
Table 11 – Physical tests on power supply cords	46
Table 12 – Acceptable perforation of the bottom of an ENCLOSURE	56
Table 13 – Limits of maximum available current	58
Table 14 – Overcurrent protective device	58
Table 15 – Surface temperature limits in NORMAL CONDITION	60
Table 16 – Insulation material of windings	60
Table 17 – Impulse withstand voltages	74
Table 18 – Output impedance for impulse generators	74
Table E.1 – Reduction of the POLLUTION degree of internal environment through the use of additional protection	89
Table G.1 – Test pressures for equipment with pressures above 14 MPa	94

INTRODUCTION

This part 1 specifies the safety requirements that are generally applicable to all equipment within its scope. For certain types of equipment, these requirements will be supplemented or modified by the special requirements of one, or more than one, particular part 2 of the standard which must be read in conjunction with the part 1 requirements.

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NOTES

STANDARDS AUSTRALIA

Australian Standard**Safety requirements for electrical equipment for measurement,
control and laboratory use—
Part 1: General requirements (IEC 61010-1:2001 MOD)**

Any table, figure or text of the international standard that is struck through is not part of this standard. Any Australian/New Zealand table, figure or text that is added is part of this standard and is identified by shading.

1 Scope and object**1.1 Scope****1.1.1 Equipment included in scope**

This part of IEC 61010 specifies general safety requirements for electrical equipment intended for professional, industrial processes, and educational use, any of which may incorporate computing devices, as defined in a) to d) below, when used under the environmental conditions of 1.4.

a) Electrical test and measurement equipment

This is equipment which by electrical means tests, measures, indicates or records one or more electrical or non-electrical quantities, also non-measuring equipment such as signal generators, measurement standards, power supplies, transducers, transmitters, etc.

NOTE All indicating and recording electrical measuring instruments (except those excluded in 1.1.2) fall within the scope of IEC 61010 unless they are panel meters designed only for building-in to other equipment. Built-in panel meters are considered to be components and only need to meet the relevant requirements of IEC 61010, or other standards, as part of the equipment into which they are built.

b) Electrical control equipment

This is equipment which controls one or more output quantities to specific values, with each value determined by manual setting, by local or remote programming, or by one or more input variables.

c) Electrical laboratory equipment

This is equipment which measures, indicates, monitors or analyses substances, or is used to prepare materials, and includes in vitro diagnostic (IVD) equipment

This equipment may also be used in areas other than laboratories, for example self-test IVD equipment may be used in the home.

d) Accessories intended for use with the above (for example, sample handling equipment).**1.1.2 Equipment excluded from scope**

This standard does not apply to equipment within the scope of

- a) IEC 60065 (Safety requirements for audio, video and similar electronic apparatus);
- b) IEC 60204 (Controls for electrical machines);
- c) AS/NZS 60335 (Safety of household and similar electrical appliances);
- d) IEC 60364 (Electrical installations of buildings);
- e) IEC 60439-1 (Low-voltage switchgear and controlgear assemblies);
- f) IEC 60521 (Class 0,5; 1 and 2 alternating current watt-hour meters);