

AS/NZS 60255.27:2025



Australian/New Zealand Standard™

Measuring relays and protection equipment

Part 27: Product safety requirements (IEC 60255-27:2023 (ED. 3.0) MOD)



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AS/NZS 60255.27:2025

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee EL-042, Renewable Energy Power Supply Systems & Equipment. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 16 January 2025 and by the New Zealand Standards Approval Board on 11 December 2024.

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-042, Renewable Energy Power Supply Systems and Equipment.

The objective of this document is to specify the product safety requirements for measuring relays and protection equipment having a rated AC voltage up to 1 000 V, or a rated DC voltage up to 1 500 V. Above these limits, IEC 60664-1 is applicable for the determination of clearance, creepage distance and withstand test voltage.

This document specifies essential safety requirements to minimize the risk of fire and hazards caused by electric shock or injury to the user and property. This document specifies only product safety requirements: functional performance of the equipment is not covered.

This document covers all the ways in which the equipment can be mounted and used in cabinets, racks and panels. This document also applies to auxiliary devices such as shunts, series resistors, transformers, auxiliary control panels, display devices, etc., that are used in conjunction with measuring relays and protection equipment and are tested together.

This document does not specify the implementation of individual equipment, circuits and components.

This document applies to equipment designed to be safe at least under the following environmental conditions:

- (a) Indoor use.
- (b) Altitude up to 2 000 m, in accordance with AS/NZS 60255.1.
- (c) Rated ambient temperature range, in accordance with AS/NZS 60255.1.
- (d) Maximum external relative humidity, in accordance with AS/NZS 60255.1.
- (e) Operating range of auxiliary energizing voltage, in accordance with AS/NZS 60255.1.
- (f) Applicable overvoltage category.
- (g) Applicable pollution degree of the intended environment (pollution degree 2 in most cases).

This document specifies the immunity test requirements for measuring relays and protection equipment in relation to continuous and transient, conducted and radiated disturbances, including electrostatic discharges.

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

Contents

Preface	ii
Foreword	vii
Introduction	ix
1 Scope	1
2 Normative references	1
3 Terms and definitions	4
4 Protection against electric shock	12
4.1 Protection from contact with hazardous-live-parts	12
4.1.1 General	12
4.1.2 Insulation	12
4.1.3 Equipment enclosure and barriers	13
4.1.4 Hazardous live terminations using stranded wire	13
4.2 Protective impedance	14
4.3 Accessible parts	14
4.3.1 General	14
4.3.2 Determination of accessible parts	15
4.3.3 Permissible limits for accessible parts	16
4.4 Earthing and protective bonding requirements	17
4.4.1 General	17
4.4.2 Insulation between live parts and accessible conductive parts	17
4.4.3 Protective bonding	17
4.5 Functional earthed circuits	18
4.6 Protective conductor connection	19
4.7 High leakage current	19
4.8 Solid insulation	19
4.8.1 General	19
4.8.2 Requirements	19
4.9 Clearances and creepage distances	20
4.9.1 General	20
4.9.2 Clearances	20
4.9.3 Creepage distances	21
4.10 Single fault condition	22
4.10.1 Test for single fault condition	22
4.10.2 Application of single fault condition	22
4.10.3 Duration of tests	24
4.10.4 Compliance	24
5 Mechanical aspects	25
5.1 Protection against mechanical hazards	25
5.1.1 Stability	25
5.1.2 Moving parts	25
5.1.3 Edges and corners	25
5.2 Mechanical requirements	25
5.3 Mechanical security of terminations	25
6 Flammability and resistance to fire	26
6.1 General	26
6.2 Requirements for protection against the spread of fire	26
6.3 General hazards from overheating and fire	28
6.3.1 Surface temperature limits for protection against burns	28
6.3.2 Hazardous gases and chemicals	28
6.4 Minimization of fire risk	28
6.4.1 General	28
6.4.2 Eliminating or reducing the sources of ignition within the equipment	29

6.5	Cabling and fusing.....	29
6.6	Flammability of materials and components.....	29
6.6.1	General.....	29
6.6.2	Materials for components and other parts inside fire enclosures.....	30
6.6.3	Materials for fire enclosures.....	30
6.6.4	Materials for components and other parts outside fire enclosures.....	31
6.7	Fire ignition sources.....	32
6.8	Conditions for a fire enclosure.....	32
6.8.1	Parts requiring a fire enclosure.....	32
6.8.2	Parts not requiring a fire enclosure.....	32
6.9	Fire enclosures and flame barriers.....	32
6.9.1	General.....	33
6.9.2	Fire enclosures and flame barrier requirements.....	33
6.10	Assessment of the fire risk due to a single fault condition.....	36
6.10.1	Guidelines for maximum acceptable temperatures when subjecting a circuit or component to a single fault condition.....	36
6.10.2	Temperature of windings under normal use or a single fault condition.....	36
6.10.3	Conformity of equipment with requirements for protection against the spread of fire.....	36
6.11	Limited-energy circuit.....	36
7	General and fundamental design requirements for safety.....	38
7.1	Climatic conditions for safety.....	38
7.2	Electrical connections.....	38
7.3	Components.....	38
7.3.1	General.....	38
7.3.2	High-integrity part or component.....	38
7.4	Connection to other equipment.....	39
7.5	High-intensity light sources.....	39
7.6	Explosion.....	39
7.6.1	General.....	39
7.6.2	Components at risk of explosion.....	39
8	Marking, documentation and packaging.....	40
8.1	Marking.....	40
8.1.1	General.....	40
8.1.2	Identification.....	40
8.1.3	Auxiliary supplies, measurands, inputs and outputs.....	41
8.1.4	Fuses.....	42
8.1.5	Measuring circuit terminals.....	43
8.1.6	Terminals and operating devices.....	43
8.1.7	Equipment protected by double or reinforced insulation.....	44
8.1.8	Batteries.....	44
8.1.9	Residual voltage marking.....	46
8.1.10	Warning markings.....	46
8.1.11	Marking durability.....	47
8.2	Documentation.....	47
8.2.1	General.....	47
8.2.2	Equipment ratings.....	48
8.2.3	Equipment installation.....	48
8.2.4	Equipment commissioning and maintenance.....	49
8.2.5	Equipment operation.....	49
8.3	Packaging.....	50
9	Type tests and routine tests.....	50
9.1	General.....	50
9.2	Safety type tests.....	51
9.3	Routine testing.....	52
9.4	Conditions for testing.....	52
9.5	Verification procedure.....	52

9.6	Tests	52
9.6.1	Climatic environmental tests	52
9.6.2	Mechanical tests	53
9.6.3	Clearances and creepage distances	54
9.6.4	Safety-related electrical tests	54
9.6.5	Electrical environment and flammability	59
9.6.6	Reverse polarity and slow ramp test	61
9.6.7	Resistance to mechanical stress	62
Annex A	(normative) Isolation class requirements and example diagrams	64
Annex B	(normative) Rated impulse voltages	75
Annex C	(normative) Guidance for the determination of clearance, creepage distance and withstand voltages	76
Annex D	(informative) Components	88
Annex E	(normative) External wiring terminations	93
Annex F	(informative) Examples of battery protection	95
Annex G	(informative) Risk assessment	96
	Bibliography	101

List of Figures

Figure 1	— Flow chart showing requirements for protection against the spread of fire	27
Figure 2	— Baffle	34
Figure 3	— Location and extent of a flame barrier	35
Figure 4	— Voltage ramp test	62
Figure 5	— Impact test with sphere	65
Figure A.1	— Equipment with SELV input and/or output (I/O)	71
Figure A.2	— Equipment with PELV input and/or output (I/O)	72
Figure A.3	— Equipment with PEB input and/or output (I/O)	74
Figure A.4	— Equipment with ELV input and/or output (I/O)	74
Figure C.1	— Guidance for determination of clearances, creepage distances and withstand voltages	81
Figure F.1	— Non-rechargeable battery protection	95
Figure F.2	— Rechargeable battery protection	95
Figure G.1	— Iterative process of risk assessment and risk reduction	97
Figure G.2	— Risk reduction	99

List of Tables

Table 1	— Equipment enclosure requirements for protection against electric shock	13
Table 2	— Current levels under normal use	16
Table 3	— Charge of energy of capacitance levels under normal use	17
Table 4	— Amplitude multiplication factor	20
Table 5	— Current levels in single fault condition	24
Table 6	— Maximum temperature under normal use and at an ambient temperature of 40 °C	28
Table 7	— Acceptable perforation in the bottom of an equipment case	35
Table 8	— Insulation material of windings	36
Table 9	— Limits of maximum available current	37
Table 10	— Overcurrent protective device	37
Table 11	— Fuse types	43
Table 12	— Symbols	45
Table 13	— Symbols for marking of test voltage(s)	46
Table 14	— Overview of tests	50
Table 15	— Impulse generator characteristics	55
Table 16	— Guidance for routine dielectric voltage testing for safety	58
Table 17	— Limiting dynamic values	60
Table 18	— Impact energy levels, test height and corresponding IK codes	65

Table A.1 — Circuit isolation class for product circuits and/or groups.....	66
Table A.2 — Insulation requirement between any two circuits.....	68
Table B.1 — Rated impulse voltages (waveform: 1,2/50 μ s).....	75
Table C.1 — Comparative tracking index (CTI).....	78
Table C.2 — Functional insulation, pollution degree 1, overvoltage category I.....	82
Table C.3 — Functional insulation, pollution degree 2, overvoltage category I.....	83
Table C.4 — Functional, basic or supplementary insulation, pollution degree 1, overvoltage category II.....	83
Table C.5 — Functional, basic or supplementary insulation, pollution degree 2, overvoltage category II.....	84
Table C.6 — Functional, basic or supplementary insulation, pollution degree 1, overvoltage category III.....	84
Table C.7 — Functional, basic or supplementary insulation, pollution degree 2, overvoltage category III.....	85
Table C.8 — Double or reinforced insulation, pollution degree 1, overvoltage category II.....	85
Table C.9 — Double or reinforced insulation, pollution degree 2, overvoltage category II.....	86
Table C.10 — Double or reinforced insulation, pollution degree 1, overvoltage category III.....	86
Table C.11 — Double or reinforced insulation, pollution degree 2, overvoltage category III.....	87
Table C.12 — Test site correction factor for proving the clearance in air.....	87
Table C.13 — Reduction of the pollution degree of internal environment through the use of additional protection within the equipment.....	87
Table E.1 — Range of conductor sizes to be accepted by terminals.....	94
Table E.2 — Sizes of terminal studs or screws directly securing supply conductors.....	94
Table G.1 — Severity of harm.....	100
Table G.2 — Probability of harm.....	100
Table G.3 — Risk category.....	100

Foreword

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IEC 60255-27 has been prepared by IEC technical committee 95: Measuring relays and protection equipment. It is an International Standard.

This third edition cancels and replaces the second edition published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) conflicting statements removed;
- b) scope clarified and statement added that all clauses of the standard are required not just type tests;

- c) terminology, definitions and documentation requirements aligned with IEC 60255-1;
- d) alignment with IEC 61010-1, e.g. HLV definitions;
- e) ingress protection clarified;
- f) dielectric and impulse tests added to mechanical and environmental test requirements;
- g) insulation resistance requirements updated for alignment with other product safety standards;
- h) sample testing removed;
- i) short time limiting thermal overload added;
- j) resistance to mechanical stress added;
- k) low-power voltage and current transformer ports added;
- l) [Annex C](#) tables updated to align with base standards;
- m) [Annex D](#) voltage dependent resistors and radio transmitters added;
- n) [Annex G](#) for risk assessment added.

The text of this International Standard is based on the following documents:

Draft	Report on voting
95/516/FDIS	95/526/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60255 series, published under the general title *Measuring relays and protection equipment*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

Introduction

This document specifies the safety requirements that are generally applicable to all equipment within its scope. These requirements may be supplemented by general product safety standards and IEC 60664-1.

NOTES

Australian/New Zealand Standard

Measuring relays and protection equipment

Part 27: Product safety requirements (IEC 60255-27:2023 (ED. 3.0) MOD)

1 Scope

This part of IEC 60255 specifies the product safety requirements for measuring relays and protection equipment having a rated AC voltage up to 1 000 V, or a rated DC voltage up to 1 500 V. Above these limits, IEC 60664-1 is applicable for the determination of clearance, creepage distance and withstand test voltage.

This document specifies essential safety requirements to minimize the risk of fire and hazards caused by electric shock or injury to the user and property. This document specifies only product safety requirements; functional performance of the equipment is not covered.

This document covers all the ways in which the equipment can be mounted and used in cabinets, racks and panels. This document also applies to auxiliary devices such as shunts, series resistors, transformers, auxiliary control panels, display devices, etc., that are used in conjunction with measuring relays and protection equipment and are tested together.

It is possible that ancillary equipment such as network switches used in conjunction with measuring relays and protection equipment needs to comply with additional safety requirements.

This document does not specify the implementation of individual equipment, circuits and components.

This document applies to equipment designed to be safe at least under the following environmental conditions:

- indoor use;
- altitude up to 2 000 m, in accordance with IEC 60255-1;
- rated ambient temperature range, in accordance with IEC 60255-1;
- maximum external relative humidity, in accordance with IEC 60255-1;
- operating range of auxiliary energizing voltage in accordance with IEC 60255-1;
- applicable overvoltage category;
- applicable pollution degree of the intended environment (pollution degree 2 in most cases).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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