

AS/NZS 60669.1:2020



Australian/New Zealand Standard™

Switches for household and similar fixed electrical installations

Part 1: General requirements (IEC 60669-1:2017 (ED. 4.0)/COR1: 2020, MOD)



AS/NZS 60669.1:2020

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- Consumers' Federation of Australia
- Electrical Regulatory Authorities Council (Australia)
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- International Accreditation New Zealand
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Australian/New Zealand Standard™

Switches for household and similar fixed electrical installations

**Part 1: General requirements (IEC 60669-1:2017
(ED. 4.0)/COR1:2020, MOD)**

Originated as AS/NZS 60669.1:2013.
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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-004, Electrical Accessories, to supersede AS/NZS 60669.1:2013.

AS/NZS 60669.1:2013 will also remain current for 24 months after the date of publication of this Standard and after this time it will be superseded by AS/NZS 60669.1:2020. Regulatory authorities that reference this Standard in regulation may apply these requirements at a different time. Users of this Standard should consult with these authorities to confirm their requirements.

The objective of this Standard is to specify general requirements for manually operated general purpose functional switches, for alternating current (AC) only with a rated voltage not exceeding 440 V with a rated current not exceeding 63 A, intended for household and similar fixed electrical installations, either indoors or outdoors.

Switches covered by this document are, where applicable, intended for the control in normal use of all of the following loads:

- (a) A circuit for a tungsten filament lamp load.
- (b) A circuit for an externally ballasted lamp load (for example, LED, CFL, fluorescent lamp load).
- (c) A circuit for a self-ballasted lamp load (for example, LEDi or CFLi).
- (d) A circuit for a substantially resistive load with a power factor not less than 0.95.

This Standard also applies to—

- (i) boxes for switches, with the exception of mounting boxes for flush-type switches;
- (ii) switches incorporating pilot lights;
- (iii) electromagnetic remote control switches (particular requirements are given in IEC 60669-2-2);
- (iv) switches incorporating a time-delay device (particular requirements are given in IEC 60669-2-3);
- (v) combinations of switches and other functions (with the exception of switches combined with fuses);
- (vi) electronic switches (particular requirements are given in IEC 60669-2-1);
- (vii) switches having facilities for the outlet and retention of flexible cables (see Annex A);
- (viii) isolating switches (particular requirements are given in IEC 60669-2-4);
- (ix) switches and related accessories for use in home and building electronic systems (particular requirements are given in IEC 60669-2-5); and
- (x) firemen's switches (particular requirements are given in IEC 60669-2-6).

This Standard will run in parallel with AS 3133, *Approval and test specification — Air-break switches*.

The essential safety requirements in AS/NZS 3820, *Essential safety requirements for electrical equipment* that could be applicable to switches are covered by this Standard, taken in conjunction with any other relevant requirements affecting safety.

This Standard is an adoption with national modifications and has been reproduced from, IEC 60669-1:2017, *Switches for household and similar fixed-electrical installations — Part 1: General requirements* and its Corrigendum 1 (2020) which has been added at the end of the source text. The modifications are additional requirements and are set out in [Appendix ZZ](#), which has been added after Corrigendum 1.

[Appendix ZZ](#) lists the variations to IEC 60669-1:2017, for the application of this Standard in Australia and New Zealand.

This document is structured as follows:

- (A) Preface.
- (B) IEC 60669-1 (unedited from the contents page to the final clause of the source document).
- (C) [Appendix ZZ](#) — Australian variations to the source document.

The variations listed in [Appendix ZZ](#) cover the following:

- (1) M rating test for all switches marked as suitable for controlling motors.
- (2) Requirements for the fitting of field-installed insulation when required to comply with the requirements for IP protection, insulation resistance and high voltage.
- (3) Testing to determining non-detachable parts.
- (4) Testing requirements for rotary switches.
- (5) IP2X requirement and the access to screws that are 84 mm apart.

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

- (aa) In the source text “this part of IEC 60669” should read “this Australian/New Zealand Standard”.
- (bb) A full point substitutes for a comma when referring to a decimal marker.
- (cc) Test specifications are indicated with italic type.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

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

NOTES

CONTENTS

FOREWORD	8
1 Scope	10
2 Normative references	11
3 Terms and definitions	12
4 General requirements	17
5 General remarks on tests	17
6 Ratings	19
6.1 Rated voltage	19
6.2 Rated current	19
6.3 Preferred combinations of number of poles and ratings	20
7 Classification	21
8 Marking	22
8.1 General	22
8.2 Symbols	23
8.3 Visibility of markings	24
8.4 Marking on terminals for phase conductors	24
8.5 Marking on terminals for neutral and earth conductors	25
8.6 Marking of the switch position	25
8.7 Additional requirements for marking	26
8.8 Durability	26
9 Checking of dimensions	26
10 Protection against electric shock	26
10.1 Prevention of access to live parts	26
10.2 Requirements for operating parts	27
10.3 Requirements for accessible metal parts	27
10.4 Requirements for insulation of the mechanism	28
10.5 Requirements for insulation of the mechanism with respect to the surrounding environment	28
10.6 Requirements for switches operated indirectly	28
10.7 Requirements for switches with replaceable pull cord	29
11 Provision for earthing	29
11.1 General	29
11.2 Earthing terminals	29
11.3 Requirements for surface-type switches	29
11.4 Test for earthing connection	29
12 Terminals	30
12.1 General	30
12.2 Terminals with screw clamping for external copper conductors	30
12.3 Screwless terminals for external copper conductors	36
13 Constructional requirements	41
13.1 Mechanical requirements for insulating means	41
13.2 Installation requirements	42
13.3 Fixing of covers, cover plates and actuating members	43
13.4 Openings in normal use	44
13.5 Attachment of knobs	44

13.6	Mounting means	45
13.7	Combination of switches	45
13.8	Accessories combined with switches.....	45
13.9	Surface-type switches having an IP code higher than IP20	45
13.10	Installation in a box.....	46
13.11	Connection of a second current-carrying conductor.....	46
13.12	Inlet openings	46
13.13	Provision for back entry from a conduit	47
13.14	Switch provided with membranes or the like for inlet openings	48
13.15	Requirements for membranes in inlet openings.....	48
13.16	Pilot light units	49
14	Mechanism	49
14.1	Indication of the position	49
14.2	Rest and intermediate position.....	49
14.3	Undue arcing	49
14.4	Making and breaking.....	49
14.5	Action of the mechanism without cover or cover plate	49
14.6	Pull force for cord-operated switches	50
15	Resistance to ageing, protection provided by enclosures of switches and resistance to humidity.....	50
15.1	Resistance to ageing	50
15.2	Protection provided by enclosures of switches	51
15.2.1	General	51
15.2.2	Protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects	51
15.2.3	Protection against harmful effects due to ingress of water	52
15.3	Resistance to humidity.....	53
16	Insulation resistance and electric strength	53
16.1	General.....	53
16.2	Test for measuring the insulation resistance	53
16.3	Electric strength test.....	55
17	Temperature rise	58
17.1	General.....	58
17.2	Switches incorporating pilot lights	59
18	Making and breaking capacity.....	60
18.1	General.....	60
18.2	Overload	60
18.3	Overload test with filament lamps	62
19	Normal operation	62
19.1	Test for switches intended for inductive loads	62
19.2	Test for switches intended for externally ballasted lamp loads	64
19.3	Test for switches intended for self ballasted lamp loads	67
20	Mechanical strength	70
20.1	General.....	70
20.2	Pendulum hammer test	70
20.3	Test on the main parts of surface-type switches.....	73
20.4	Screwed glands	73
20.5	Covers, cover plates or actuating members – accessibility to live parts.....	73

20.5.1	General	73
20.5.2	Verification of the non-removal of covers, cover plates or actuating members	74
20.5.3	Verification of the removal of covers, cover plates or actuating members.....	74
20.6	Covers, cover plates or actuating members – accessibility to non-earthed metal parts separated from live parts	74
20.7	Covers, cover plates or actuating members – accessibility to insulating parts, earthed metal parts, the live parts of SELV ≤ 25 V AC or metal parts separated from live parts	74
20.8	Covers, cover plates or actuating members – application of gauges.....	75
20.9	Grooves, holes and reverse tapers	75
20.10	Additional test for cord-operated switch	75
21	Resistance to heat.....	75
21.1	General.....	75
21.2	Basic heating test	76
21.3	Ball-pressure test on parts of insulating material necessary to retain current-carrying parts and parts of the earthing circuit in position.....	76
21.4	Ball-pressure test on parts of insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position.....	76
22	Screws, current-carrying parts and connections.....	77
22.1	General.....	77
22.2	Correct insertion of screws	77
22.3	Contact pressure of electrical connections	78
22.4	Screws and rivets used both as electrical and mechanical connections	78
22.5	Material of current-carrying parts	78
22.6	Contacts subjected to sliding actions	79
22.7	Thread-forming and thread-cutting screws	79
23	Creepage distances, clearances and distances through sealing compound.....	79
23.1	General.....	79
23.2	Insulating compound	82
24	Resistance of insulating material to abnormal heat, to fire and to tracking	82
24.1	Resistance to abnormal heat and to fire	82
24.2	Resistance to tracking.....	83
25	Resistance to rusting	83
26	EMC requirements	84
26.1	Immunity.....	84
26.2	Emission.....	84
Annex A (normative) Additional requirements for switches having facilities for the outlet and retention of flexible cables		104
Annex B (informative) Changes planned for the future in order to align IEC 60669-1 with the requirements of IEC 60998 (all parts), IEC 60999 (all parts) and IEC 60228		107
Annex C (informative) Circuit development (19.3)		124
C.1	Rationale	124
C.2	I_{peak} and I^2t for normal operation tests	124
C.2.1	General	124
C.2.2	Switching a single lamp	124
C.2.3	Switching multiple lamps	126
Annex D (informative) Additional requirements for insulation-piercing terminals		128

Annex E (informative) Additional requirements and tests for switches intended to be used at a temperature lower than $-5\text{ }^{\circ}\text{C}$	138
Bibliography.....	140
Figure 1 – Pillar terminals	85
Figure 2 – Screw head terminals and stud terminals	87
Figure 3 – Saddle terminals	87
Figure 4 – Lug terminals	88
Figure 5 – Mantle terminals.....	89
Figure 6 – Thread-forming screw	89
Figure 7 – Thread-cutting screw.....	89
Figure 8 – Classification according to connections	90
Figure 9 – Test apparatus for checking damage to conductors	91
Figure 10 – Information for deflection test	92
Figure 11 – Circuit diagrams for making and breaking capacity and normal operation	93
Figure 12 – Circuit diagrams for testing switches	94
Figure 13 – Arrangement for test on cover-plates.....	94
Figure 14 – Gauge (thickness: about 2 mm) for the verification of the outline of covers, cover-plates or actuating members	95
Figure 15 – Example of application of the gauge of Figure 14 on covers fixed without screws on a mounting surface or supporting surface	96
Figure 16 – Examples of applications of the gauge of Figure 14 in accordance with the requirements of 20.8	97
Figure 17 – Gauge for verification of grooves, holes and reverse tapers	98
Figure 18 – Sketch showing the direction of application of the gauge of Figure 17	98
Figure 19 – Ball-pressure apparatus	99
Figure 20 – Determining parts of insulating material to be tested – Diagrammatic representation (see 24.1).....	99
Figure 21 – Test wall in accordance with the requirements of 15.2.3.....	100
Figure 22 – Direction for the conductor pull of 30 N for 1 min.....	102
Figure 23 – Examples of membranes and grommets	103
Figure 1 – Pillar terminals	122
Figure C.1 – 120 V 15 W (LT spice model).....	125
Figure C.2 – 230 V 15 W (LT spice model).....	126
Figure C.3 – Model for multiple lamp loads	127
Figure C.4 – I_{peak} and I^2t for multiple lamp loads	127
Figure D.1 – Example of insulation-piercing terminals	136
Figure D.2 – Example of test-points	136
Figure D.3 – Temperature cycle for the voltage drop test of 12.4.11	137
Table 1 – Number of specimens needed for the tests	18
Table 2 – Relationship between rated current of the switch and rated power of the SBL circuit.....	20
Table 3 – Preferred combinations of numbers of poles and ratings	20

Table 4 – Relationship between rated currents and connectable cross-sectional areas of copper conductors	30
Table 5 – Tightening torque for the verification of the mechanical strength of screw-type terminals	32
Table 6 – Test values for flexion and pull out for copper conductors	33
Table 7 – Test values for pulling out test.....	34
Table 8 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screwless terminals.....	36
Table 9 – Test current for the verification of electrical and thermal stresses in normal use of screwless terminals.....	39
Table 10 – Cross-sectional areas of rigid copper conductors for deflection test of screwless terminals	41
Table 11 – Deflection test forces.....	41
Table 12 – Forces to be applied to covers, cover-plates or actuating members whose fixing is not dependent on screws	44
Table 13 – External cable diameter limits for surface type switches	47
Table 14 – Points of application of the test voltage for the verification of insulation resistance and electric strength	54
Table 15 – Test voltage, points of application and minimum values of insulating resistance for the verification of electric strength	57
Table 16 – Temperature-rise test currents and cross-sectional areas of copper conductors.....	58
Table 17 – Fractions of total number of operations.....	61
Table 18 – Number of operations for normal operation test	63
Table 19 – Values for I_{peak} and I^2t depending on the type of distribution system	68
Table 20 – Calculated circuit parameters	68
Table 21 – Height of fall for impact test.....	71
Table 22 – Torque for the verification of the mechanical strength of glands	73
Table 23 – Creepage distances, clearances and distances through insulating sealing compound.....	80
Table A.1 – Limits of external dimensions of flexible cables	105
Table 4 – Relationship between rated currents and connectable cross-sectional areas of copper conductors	108
Table 5 – Tightening torque for the verification of the mechanical strength of screw-type terminals	111
Table 6 – Test values for flexion and pull out of copper conductors	111
Table 7 – Relationship between pull force and cross-sectional area.....	112
Table 8 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screwless terminals.....	115
Table 9 – Test current for the verification of electrical and thermal stresses in normal use for screwless terminals.....	119
Table 10 – Cross-sectional areas of rigid copper conductors for deflection test of screwless terminals	121
Table 11 – Deflection test forces.....	121
Table C.1 – Lamp	124
Table D.1 – Specimens needed for Clause 12 for insulation-piercing terminals (IPTs)	129
Table D.2 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for insulation-piercing terminals	131

Table D.3 – Test current for the verification of electrical and thermal stresses in
normal use of insulation-piercing terminals 135

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SWITCHES FOR HOUSEHOLD AND SIMILAR
FIXED ELECTRICAL INSTALLATIONS –****Part 1: General requirements**

FOREWORD

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International Standard IEC 60669-1 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23:

This fourth edition cancels and replaces the third edition published in 1998, Amendment 1:1999 and Amendment 2:2006. This edition constitutes a technical revision.

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

- a) change of the scope for motor load switches;
- b) deletion of some dated normative references;
- c) changes to the definitions;
- d) in Clause 5 the number of specimens to be used for the tests are clearly given in Table 1 (Corresponding Annex A of IEC 60669-1:1998 was therefore deleted);

- e) in Clause 5 it was clarified on which switches the tests of Clause 19 shall be carried out;
- f) requirements concerning 13 A switches have been included;
- g) mandatory indication that a terminal is suitable for rigid conductor only;
- h) requirements and test conditions for flexible conductors have been included in Clause 12;
- i) requirements for pilot light units have been included;
- j) new test for self-ballasted lamp loads in 19.3;
- k) Table 20 has been completely redrawn to cover normal, mini and micro-gap switches and renumbered Table 21;
- l) new informative Annex B including changes planned for the future in order to align IEC 60669-1 with the requirements of IEC 60998 (all parts), IEC 60999 (all parts) and IEC 60228;
- m) new informative Annex C about the circuit development for 19.3;
- n) new informative Annex D including additional requirements for insulation-piercing terminals;
- o) new informative Annex E including additional requirements and tests for switches intended to be used at a temperature lower than $-5\text{ }^{\circ}\text{C}$.

The text of this standard is based on the following documents:

FDIS	Report on voting
23B/1235/FDIS	23B/1241/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this standard, the following print types are used:

- *compliance statements: in italic type*

A list of all parts in the IEC 60669 series, published under the general title *Switches for household and similar fixed electrical installations*, can be found on the IEC website.

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 1: General requirements

1 Scope

This part of IEC 60669 applies to manually operated general purpose functional switches, for alternating current (AC) only with a rated voltage not exceeding 440 V with a rated current not exceeding 63 A, intended for household and similar fixed electrical installations, either indoors or outdoors.

For switches provided with screwless terminals, the rated current is limited to 16 A.

NOTE 1 The rated current is limited to 16 A for switches provided with insulation piercing terminals (IPT's) according to Annex D.

Switches covered by this document are, where applicable, intended for the control in normal use of all of the following loads:

- a circuit for a tungsten filament lamp load;
- a circuit for an externally ballasted lamp load (for example LED, CFL, fluorescent lamp load);
- a circuit for a self ballasted lamp load (for example LEDi or CFLi);
- a circuit for a substantially resistive load with a power factor not less than 0,95;
- a single phase circuit for motor load with a rated current not exceeding 3 A at 250 V (750 VA) and 4,5 A at 120 V (540 VA) and a power factor not less than 0,6. This applies to both switches rated not less than 10 A that have not undergone additional tests and to momentary switches rated not less than 6 A that have not undergone additional tests.

NOTE 2 In the following country the suitability of a switch intended to control the inrush current of a motor shall be tested: AU.

This document also applies to boxes for switches, with the exception of mounting boxes for flush-type switches.

NOTE 3 General requirements for boxes for flush-type switches are given in IEC 60670-1.

It also applies to switches such as

- switches incorporating pilot lights;
- electromagnetic remote control switches (particular requirements are given in IEC 60669-2-2);
- switches incorporating a time-delay device (particular requirements are given in IEC 60669-2-3);
- combinations of switches and other functions (with the exception of switches combined with fuses);
- electronic switches (particular requirements are given in IEC 60669-2-1);
- switches having facilities for the outlet and retention of flexible cables (see Annex A);
- isolating switches (particular requirements are given in IEC 60669-2-4);
- switches and related accessories for use in home and building electronic systems (particular requirements are given in IEC 60669-2-5);
- firemen's switches (particular requirements are given in IEC 60669-2-6).