

Switches for household and similar fixed-electrical installations —

Part 2: Particular requirements —

Section 1: Electronic switches

The European Standard EN 60669-2-1:1996, including amendment A11:1997, has the status of a British Standard

ICS 29.120.40

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National Foreword

This British Standard is the English language version of EN 60669-2-1:1996, including amendment A11:1997. It was derived by CENELEC from IEC 60669-2-1:1994.

The CENELEC common modifications have been implemented at the appropriate places in the text and are indicated by a side line in the margin. The UK participation in its preparation was entrusted to Technical Committee PEL/23, Electrical accessories, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

The minor corrections required by Annex ZC to EN 60669-2-1:1996 have been incorporated. The annex is therefore redundant and is omitted from this document.

From 1 January 1997, all IEC publications have the number 60 000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

Cross-references

Attention is drawn to the fact that CEN and CENELEC standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 22 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 March 1998

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Descriptors: Electrical installation, home electrical installation, switches, electronic equipment, detail specifications, classifications, marking, dimensional measurements, protection against electric shocks, temperature rise, equipment specifications, make capacity, break capacity performance evaluation, radio disturbances

English version

Switches for household and similar fixed-electrical installations Part 2: Particular requirements Section 1: Electronic switches

(includes amendment A11:1997)
(IEC 669-2-1:1994 + A1:1994 + A2:1995, modified)

Interrupteurs pour installations électriques
fixes domestiques et analogues
Partie 2: Prescriptions particulières
Section 1: Interrupteurs électroniques
(inclut l'amendement A11:1997)
(CEI 669-2-1:1994 + A1:1994 + A2:1995,
modifiée)

Schalter für Haushalt und ähnliche ortsfeste
elektrische Installationen
Teil 2: Besondere Anforderungen
Hauptabschnitt 1: Elektronische Schalter
(enthält Änderung A11:1997)
(IEC 669-2-1:1994 + A1:1994 + A2:1995,
modifiziert)

This European Standard was approved by CENELEC on 1996-07-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The text of the International Standard IEC 669-2-1:1994, prepared by SC 23B, Plugs, socket-outlets and switches, of IEC TC 23, Electrical accessories, together with common modifications prepared by the Technical Committee CENELEC TC 23B, Switches for household and similar fixed electrical installations, was submitted to the formal vote and was approved by CENELEC as EN 60669-2-1 on 1996-07-02.

The text of amendments 1:1994 and 2:1995 to the International Standard IEC 669-2-1:1994, prepared by the same SC 23B of IEC TC 23, together with common modifications prepared by the Technical Committee CENELEC TC 23B, was submitted to the Unique Acceptance Procedure and was approved by CENELEC for inclusion in EN 60669-2-1 on 1996-07-02.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1999-06-01

For products which have complied with the relevant national standard before 2007-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2012-03-01.

Annexes designated “normative” are part of the body of the standard. Annexes designated “informative” are given for information only. In this standard, Annex ZA (Normative references) and Annex ZA (Special national conditions) are normative and Annex AA and Annex ZC (corrigendum to IEC 669-2-1:1994) are informative. Annex ZA, Annex ZA and Annex ZC have been added by CENELEC.

Foreword to amendment A11:1997

This amendment was prepared by the Technical Committee CENELEC TC 23B, Switches for household and similar fixed electrical installations.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A11 to EN 60669-2-1:1996 on 1997-07-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1998-03-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1999-06-01

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1 Scope

This clause of part 1 is replaced by the following:

This standard applies to electronic switches and to associated electronic extension units for household and similar fixed electrical installations either indoors or outdoors.

It applies to electronic switches for the operation of lamp circuits and the control of the brightness of lamps (dimmers) as well as the control of the speed of motors (e.g. those used in ventilating fans) and for other purposes (e.g. heating controls), with a working voltage not exceeding 250 V a.c. and a rated current up to and including 16 A.

The operation and control as mentioned above are performed by a person via an actuating member, a sensing surface or a sensing unit, by means of touch, proximity, turn, optical, acoustic, thermal or any other influence.

This standard also applies to electronic switches where the operation or control is made by physical means, e.g. light, wind velocity, presence of persons etc.

NOTE 1 This standard is not intended to cover devices falling within the scope of IEC 730 or EN 61058-1.

Examples of designs of electronic switches and functions are shown in Annex AA.

NOTE 2 Electronic switches without a mechanical switch in the main circuit do not provide a "full off-state". Therefore, the circuit on the load side should be considered to be live.

2 Normative references

NOTE Normative references to international publications are listed in Annex ZA (normative).

3 Definitions

This clause of part 1 applies with the following additions:

After the first paragraph.

Addition:

The term "Electronic switch" is used as a general term to cover both switching and control devices.

Additional definitions:

3.101

rated load

load assigned to the electronic switch by the manufacturer

3.102

minimum load

minimum load at which the electronic switch still operates correctly

3.103

minimum current

permissible minimum current at which the electronic switch still operates correctly

3.104

electromechanically operated contact mechanism

component which operates the parts used to open and close the circuit electromechanically

3.105

semiconductor switching device

switching device designed to make or break the current in an electric circuit by means of the controlled conductivity of a semiconductor in that circuit

NOTE 1 In a circuit where the current passes through zero (periodically or otherwise) the effect of "not making" the current following such a zero value is equivalent to breaking the current.

NOTE 2 Typical examples of semiconductor switching devices are:

- electronic switching devices using the phase-cut-on principle to control the load by switching on the current at any phase angle at or after zero crossing in each half-wave, e.g. by a thyristor;
- electronic switches using the phase-cut-off principles to control the load by switching off the current at any phase angle after crossing in each half-wave, e.g. by a transistor in a diode bridge.

3.106

electronic momentary contact switch

electronic switch with an electromechanical switching mechanism or a semiconductor switching device which returns automatically to the initial state after operation

3.107

mechanical control unit

unit directly adjustable by mechanical means, (e.g. potentiometer) which controls the output via electronic components

3.108

electronic output control unit

unit adjustable by other than mechanical means (e.g. sensing unit), containing electronic components and controlling the output

3.109

electronic extension unit

unit permitting the control of an electronic switch from a distance