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REDLINE VERSION

INTERNATIONAL STANDARD

Plugs and socket-outlets for household and similar purposes – Part 2-6: Particular requirements for switched socket-outlets with interlock for fixed electrical installations

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IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES –

Part 2-6: Particular requirements for switched socket-outlets with interlock for fixed electrical installations

FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60884-2-6:1997. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

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IEC 60884-2-6 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories. It is an International Standard.

This second edition cancels and replaces the first edition published in 1997. This edition constitutes a technical revision.

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

a) alignment to IEC 60884-1, fourth edition.

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

Draft	Report on voting
23B/1547/FDIS	23B/1561/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.

This document is to be used in conjunction with IEC 60884-1:2022.

This document supplements or modifies the corresponding clauses in IEC 60884-1:2022, so as to convert that publication into the IEC standard: Particular requirements for switched socket-outlets without interlock for fixed installations.

When a particular subclause of IEC 60884-1:2022 is mentioned in this document, that subclause applies as far as reasonable. Where this document states "addition", "modification" or "replacement", the relevant text of IEC 60884-1:2022 is to be adapted accordingly.

In this document the following print types are used:

– requirements proper: in roman type;

– *test specifications: in italic type;*

– Explanatory matter: in smaller roman type.

Subclauses, notes, figures and tables or figures which are additional to those in IEC 60884-1:2022 are numbered starting from 101.

A list of all the parts in the IEC 60884 series, under the general title *Plugs and socket-outlets for household and similar purposes*, 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, or
- revised.

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PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES –

Part 2-6: Particular requirements for switched socket-outlets with interlock for fixed electrical installations

1 Scope

Replace IEC 60884-1:2022, Clause 1 with the following:

This part of IEC 60884 applies to switched socket-outlets with interlock for AC only, for fixed electrical installations, with or without earthing contact, with rated voltage above 50 V but not exceeding 440 V and a rated current not exceeding 32 A, intended for household and similar purposes, either indoors or outdoors.

Switched socket-outlets with interlock according to this document consist of a combination of socket-outlets according to IEC 60884-1, interlocked with a switch according to IEC 60669-1 and/or IEC 60669-2-1 supplied as a complete ~~unit~~ accessory.

The rated current is limited to 16 A maximum for fixed accessories provided with screwless terminals.

This document does not cover requirements for flush mounting boxes.

However, it covers those requirements for surface-type mounting boxes which are necessary for the tests on socket-outlets.

NOTE 1 General requirements for mounting boxes are covered by IEC 60670.

NOTE 2 Interlocked socket-outlets incorporating devices according to IEC 60898, IEC 61008 and IEC 61009 are not covered by this document. This document ~~may~~ can be used as a guide for the requirements and tests of these accessories where relevant.

This document does not apply to

– interlocked socket-outlets for industrial purposes;
– interlocked socket-outlets for EV;
– interlocked socket-outlets for SELV.

~~*Accessories* complying with this *standard* are suitable for use at *an* ambient *temperature* not normally exceeding *25* °C, but *occasionally reaching* 35 °C.~~

Plugs and socket-outlets complying with this document are suitable for use at ambient temperatures not normally exceeding +40 °C, but their average temperature over a period of 24 h does not exceed +35 °C, with a lower limit of the ambient air temperature of −5 °C.

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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IEC 60884-1:2022, Clause 2 is applicable, except as follows:

Add to the list of normative references:

IEC 60669-1:~~1993~~2017, *Switches for household and similar fixed-electrical installations – Part 1: General requirements*

IEC 60669-2-1:~~1996~~2021, *Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic ~~switches~~ control devices*

IEC 60884-1:~~1994~~2022, *Plugs and socket-outlets for household and similar purposes – Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

IEC 60884-1:2022, Clause 3 is applicable, except as follows:

Addition:

3.101
interlock
device, either electrical or electronic or mechanical or a combination of these, which prevents the pins/contacts of a plug from becoming live before the plug is in proper engagement with a socket-outlet and which either prevents the plug from being withdrawn while its pin/contacts are live or makes the contacts of the socket-outlet dead before the plug is withdrawn

3.102
switched socket-outlet with interlock
factory assembled ~~unit~~ accessory consisting of a socket-outlet with an integral switching device controlling the socket-outlet, which is provided with an interlock

3.103
retaining device
mechanical arrangement which holds a plug in position when it is in proper engagement, and prevents its unintentional withdrawal

4 General requirements

IEC 60884-1:2022, Clause 4 is applicable.

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5 General ~~notes~~ remarks on tests

IEC 60884-1:2022, Clause 5 is applicable, except as follows:

5.4 Additional samples

Add after the ~~fourth~~ second paragraph:

For the test of Clause 15, it is possible that three additional specimens ~~may be~~ are necessary.

6 Ratings

IEC 60884-1:2022, Clause 6 is applicable.

7 Classification

IEC 60884-1:2022, Clause 7 is applicable, except as follows:

7.2 *Add the following subclauses:*

7.2.101 Switched socket-outlets with interlock are classified:

7.2.101.1 According to the method of actuating the switch:

– rotary;
– tumbler;
– rocker;
– push-button;
– touch;
– proximity;
– optical;
– acoustic;
– other external influences.

7.2.101.2 According to the number of poles of the switch:

– single-pole;
– double-pole;
– three-pole;
– three-pole with neutral.

7.2.101.3 According to the type of interlock:

– mechanical;
– electrical;
– electronic;
– a combination of any of these.

7.2.101.4 According to the retaining device:

– without device;
– with device.

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8 Marking

IEC 60884-1:2022, Clause 8 is applicable, except as follows:

8.1 General

Add the following dashed list items before Note 2:

– symbol of mini-gap construction, if applicable;
– symbol of micro-gap construction, if applicable;
– symbol for semiconductor switching device, if applicable.

8.2 Symbols

Add the following dashed list items before the notes:

– Mini-gap construction ..... m
– Micro-gap construction ..... μ
– Semiconductor switching device.....~~(under consideration)~~ ε
– "OFF" position ..... O
– "ON" position..... I

Addition:

8.101 Identification of line terminals

Terminals of switched socket-outlets with interlock intended for the connection of the phase conductors shall be identified, unless the method of connection is of no importance or is self-evident or is indicated in a wiring diagram. Such identification may take the form of a letter L or in the case of more than one terminal, the letters L_1, L_2, L_3, etc., which may be accompanied by an arrow pointing to the relevant terminal(s).

Alternatively, the surface of such terminals shall be bare brass or copper, other terminals being covered with a metallic layer of another colour.

These indications shall not be placed on screws or any other easily removable parts.

8.102 Indication of the actual switch position

Switched socket-outlets with interlock shall be so marked that the direction of movement of the actuating member to its different positions or the actual switch position, is clearly indicated.

These indications shall be clearly visible on switched socket-outlets with interlock fitted with their cover or cover plate as for normal use. If these indications are placed on the cover or cover plate, it shall not be possible to fix the cover or cover plate in a position such that the indications are incorrect.

For indicating the direction of movement of the operating means, the symbols "O" and " I " may be used.

The short, straight line indicating the "ON" position shall be radial for rotary switches, perpendicular to the axis of rotation of the dolly for tumbler switches and rocker switches, and vertical for push-button switches when mounted vertically in its intended position.

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9 Checking of dimensions

IEC 60884-1:2022, Clause 9 is applicable.

10 Protection against electric shock

IEC 60884-1:2022, Clause 10 is applicable, except as follows:

Addition:

10.101 Requirements for operating parts

Knobs, operating levers, push-buttons, rockers and the like, for operating switches in switched socket-outlets with interlock shall be of insulating material, unless their accessible metal parts are separated from the metal parts of the mechanism by double insulation or reinforced insulation, or in the case of switched socket-outlets with interlock with earthing terminals, they are reliably connected to earth.

Compliance is checked by inspection and by the tests of Clause 17 and Clause 21.

~~NOTE – For definition of the terms "double insulation" and "reinforced insulation", see IEC 60536.~~

10.102 Requirements for accessible metal parts (protrusion from enclosure)

Metal parts of the switch mechanism, such as the spindle or the pivot of the dolly or rocker, that are not insulated from live parts, shall not protrude from the enclosure.

Compliance is checked by inspection. If necessary, the actuating member may be removed or broken.

If the actuating member has to be broken, compliance is checked after the test of Clause 28.

10.103 Requirements for accessible metal parts (accessibility)

Metal parts of the switch mechanism, such as the spindle or the pivot of the dolly or rocker, shall not be accessible when the switched socket-outlet with interlock is mounted as for normal use.

In addition, these metal parts shall be insulated from accessible metal parts, including metal frames supporting the base of flush-type switched socket-outlets with interlock, liable to be mounted in a metal box, and also from screws used for fixing the base to its support.

This additional requirement does not apply if the metal parts of the mechanism are separated from live parts in such a way that the creepage distances and clearances have at least twice the values specified in 27.1, or as an alternative for switched socket-outlets with interlock provided with earthing terminals, if they are reliably connected to earth.

Compliance is checked by inspection. If necessary, measurement and the tests of Clause 17 and Clause 20 may be used.

11 Provision for earthing

IEC 60884-1:2022, Clause 11 is applicable.

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12 Terminals and terminations

IEC 60884-1:2022, Clause 12 is applicable.

13 Construction of fixed socket-outlets

IEC 60884-1:2022, Clause 13 is applicable, except as follows:

Addition:

13.101 Switch poles

Switches shall be constructed to match the number of poles of the socket-outlet, except that the neutral pole is not switched in unswitched neutral socket-outlets.

The earthing contact is not considered as a pole and the earth circuit shall not be switched.

The position of the switch operating member shall be such that it does not prevent, nor shall its correct operation be prevented by, the proper insertion of the corresponding plug or plugs.

~~NOTE – This may be checked by reference to the appropriate standard sheets for the system of plugs and socket-outlets used in the country in question.~~

Compliance is checked by inspection and by a manual test.

13.102 Attachment of knobs

Knobs of rotary switches shall be securely coupled to the shaft or to the part operating the mechanism.

Compliance is checked by the following test.

The knob is subjected for 1 min to an axial pull of 100 N.

After this, knobs of switches having only one direction of operation are turned, if possible, without undue force, 100 times in the reverse direction.

During the test the knob shall not become detached.

13.103 Indication of the position

The actuating member of a switch, when released, shall automatically take up the position corresponding to that of the moving contacts, except that, for those with a single push-button, the actuating member may take up a single rest position.

13.104 Rest and intermediate position

Switches shall be so constructed that the moving contacts can come to rest only in the "ON" or "OFF" position, an intermediate position being, however, permissible if it corresponds to the intermediate position of the actuating member and if the insulation between the fixed and moving contacts is then adequate.

When in the intermediate position, the insulation between the fixed and moving contacts is checked by applying a voltage of substantially sine-wave form, having a frequency of 50 Hz or 60 Hz, for 1 min across the switch gap, the test voltage being 1 250 V for switched socket-outlets with interlock having a rated voltage up to and including 130 V, or 2 000 V for switched socket-outlets with interlock having a rated voltage exceeding 130 V.

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