IEC 60947-3

Edition 4.0 2025-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Low-voltage switchgear and controlgear – Part 3: Switches, disconnectors, switch-disconnectors and fuse combination units

Appareillage à basse tension – Partie 3: Interrupteurs, sectionneurs, interrupteurs-sectionneurs et combinés-fusibles

IEC 60947-3:2020-04/AMD1:2025-04(en-fr)

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

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

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, …). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, …). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications, symboles graphiques et le glossaire. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 500 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 25 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

IEC 60947-3

Edition 4.0 2025-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Low-voltage switchgear and controlgear –
Part 3: Switches, disconnectors, switch-disconnectors and fuse combination units

Appareillage à basse tension –
Partie 3: Interrupteurs, sectionneurs, interrupteurs-sectionneurs et combinés-fusibles

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.120.40, 29.130.20

ISBN 978-2-8327-0366-3

INTERNATIONAL ELECTROTECHNICAL COMMISSION

____

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units

AMENDMENT 1

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to IEC 60947-3 ED4 has been prepared by subcommittee 121A: Low-voltage switchgear and controlgear, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage.

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

– addition of remotely operated devices;
– addition of a new Annex G defining the requirements for DC disconnectors, switch-disconnectors and fuse combination units for use in Battery Power Supplies (BPS) that are used in battery energy storage systems (BESS);

– addition of test requirements for short circuit making of single-phase operated switches and switch-disconnectors;

– switches for photovoltaic applications with utilisation categories DC-PV1 and DC-PV2 can, subject to marking, be suitable for current flow in one or both directions;

– more clarity in Annex F on the measurement of power loss in devices incorporating electronics and different pole configurations in DC devices.

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

Draft	Report on voting
121A/645/FDIS	121A/675/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 Amendment 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/.

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.

2 Normative references

Add the following new references:

IEC 60068-2-14:2023, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 62208:2023, *Empty enclosures for low-voltage switchgear and controlgear assemblies – General requirements*

3.3 General terms

Add the following new terms:

3.3.11
remotely operated equipment
switching equipment that is electrically operated from a point distant from the controlled switching device

Note 1 to entry: A remotely operated switch can have an additional feature for either local or manual (non-electrical) operation, or both.

Note 2 to entry: Remote operation can be performed by an integral device or an auxiliary device associated with the switching device, for example, motor operator or coils.

Note 3 to entry: Remote operation can be achieved via physical wiring, wifi, Bluetooth, etc., as defined in the product documentation.

3.3.12
operating time of a remotely operated equipment
time measured from the instant when the switching operation is initiated at the switching device to (i) the closing of the main contacts or (ii) the opening of the main contacts

Note 1 to entry: Operating times from closed to open (opening time) and from open to closed (closing time) can be different.

Note 2 to entry: For a definiton of closing time, see 3.7.44 of IEC 60947-1:2020 and for a definition of opening time, see 3.7.39 of IEC 60947-1:2020.

4.2 According to the method of operation

4.2.2 Remotely operated equipment

Delete "Under consideration" *and add the following:*

– remotely operated:
  - self-powered remotely operated equipment;
  - externally powered remotely operated equipment;
– type of remote operation:
  - opening and closing: both opening and close operation controllable from remote;
  - opening only: only opening operation controllable from remote.

5 Characteristics

5.2 Type of equipment

Add, after the fifth dash, the following new dash:

– control method of the device.

Add the following new subclause:

5.9 Remote operation

The manufacturer shall declare the following:

a) minimum and maximum values of voltage operating limits for the control supply and, as applicable, corresponding frequency;
b) the closing time, when applicable (3.7.44 of IEC 60947-1:2020);
c) the opening time (3.7.39 of IEC 60947-1:2020);

d) the type of operating signal:
   i) permanent signal;
   ii) single impulse;
e) information on power consumption for remote operation:
   i) nominal power consumption and duration;
   ii) inrush power consumption and duration, if applicable;
f) connection arrangement for remote operation.

6 Product information

6.1 Nature of information

Replace the text with the following new text:

Subclause 6.1 of IEC 60947-1:2020 applies with the following modification:

Replace, under "Characteristics", the 7th dash, "rated impulse withstand voltage (see 5.3.1.3)", *with the following:*

– rated impulse withstand voltage (see 5.3.1.3);
   a) main power circuit of the equipment.
   b) control circuits.

6.2 Marking

Replace the existing Table 3 with the following new table:

Item	Information	Marking location
1.1	Indication of the open and close position. If symbols are used, the open position shall be indicated by graphical symbol IEC 60417-5008:2002-10 and the closed position by graphical symbol IEC 60417-5007:2002-10 (see 8.1.6.1 of IEC 60947-1:2020).	Visible
1.2	Suitability for isolation. The appropriate symbols of Table 1 shall be used.	Visible
1.3	Additional marking for disconnectors. Devices of utilization category AC-20A, AC-20B, DC-20A, DC-20B, DC-PV0 and DC-BPS0 shall be marked "Do not operate under load" adjacent to these categories, unless the device has interlocking means to prevent such an operation.	Visible
1.4	Additional marking for remotely operated equipment. When remote closing is provided this mode of operation shall be clearly indicated on the product if a locking means in the OFF position is not provided.	Visible
2.1	Manufacturer's name or trademark.	Marked
2.2	Type designation or catalogue reference.	Marked
2.3	Rated operational currents (or rated powers) with the corresponding rated operational voltage and utilization category, (see 5.3.2, 5.3.3 and as applicable, 5.4, D.5.4 or G.5.4).	Marked
2.4	Value (or range) of the rated frequency or the indication "DC" (or the symbol ⎓ IEC 60417-5031:2002-10).	Marked
2.5	For fuse-combination units, the fuse type characteristics and maximum rated current and the maximum power loss of the fuse-link.	Marked [a]
2.6	IEC 60947-3, if the manufacturer claims compliance with this document.	Marked
2.7	Degree of protection of enclosed equipment (see Annex C of IEC 60947-1:2020).	Marked
2.8	Terminals shall be identified "load" and "line", unless the connection is immaterial (see 9.3.4.4.1).	Marked