

INTERNATIONAL STANDARD



Low-voltage switchgear and controlgear enclosed equipment –

Part 1: ~~Enclosed switch-disconnectors outside the scope of IEC 60947-3 to provide isolation during repair and maintenance work~~

Additional requirements for enclosed switch-disconnectors in accordance with IEC 60947-3 – Isolation of electrical equipment during repair and maintenance work in specific applications

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR
ENCLOSED EQUIPMENT –**

**Part 1: ~~Enclosed switch-disconnectors outside the scope of IEC 60947-3
to provide isolation during repair and maintenance work~~**

**Additional requirements for enclosed switch-disconnectors in accordance
with IEC 60947-3 – Isolation of electrical equipment during repair and
maintenance work in specific applications**

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.
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IEC 62626-1 has been prepared by subcommittee SC121A: Low-voltage switchgear and controlgear, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage. It is an International Standard.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

a) update of this document based on IEC 60947-1:2020.

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

Draft	Report on voting
121A/569/FDIS	121A/581/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 62626 series, published under the general title *Low-voltage switchgear and controlgear enclosed 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, or
- revised.

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INTRODUCTION

Enclosed switch-disconnectors covered by this part of IEC 62626 are intended for use in various applications, to provide isolation of electrical equipment, especially motor circuits, during repair, cleaning and maintenance works.

Such enclosed switch-disconnectors are sometimes known as “maintenance switches”, or “safety switches”. The name “safety switch” is also used for safety related position switches, inspection switches and switches for other applications, which are not covered by this document.

This part of IEC 62626 specifies additional requirements for enclosed switch-disconnectors in accordance with IEC 60947-3 to provide isolation of electrical equipment during repair and maintenance work.

Enclosed switch-disconnectors in accordance with this document are mounted close to the equipment ~~which has to be being isolated and are usually operated by instructed persons.~~

NOTE 1 The term “safety switch” is not recognized in some countries as having the same meaning as given in this document.

NOTE 2 Switch-disconnectors do not necessarily meet the requirements for prevention of unexpected start, especially if there are energy sources other than electrical.

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LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ENCLOSED EQUIPMENT –

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Additional requirements for enclosed switch-disconnectors in accordance with IEC 60947-3 – Isolation of electrical equipment during repair and maintenance work in specific applications

1 Scope

This part of IEC 62626 applies to enclosed switches-disconnectors with rated voltages up to 1 000 V AC for repair and maintenance work or cleaning work in load circuits. Devices within the scope of this document are ~~derived from~~ switch-disconnectors in accordance with IEC 60947-3 **with specific additional requirements**. Enclosed switch-disconnectors in this document are suitable for isolation in accordance with the IEC 60947 series and are not ~~supposed to be~~ equipped with means for remote control or automatic switching to avoid unexpected or accidental start. These devices are not ~~intended to be~~ used for operational switching, **for example** quick start and stop ~~or~~, jogging.

NOTE 1 However, this kind of devices can provide the possibility to switch off electrical equipment (even in a critical situation or not).

Devices within the scope of this document provide isolation of electrical equipment, especially in motor circuits, during repair and maintenance ~~or~~ cleaning works.

Enclosed switch-disconnectors for various applications to provide isolation of electrical equipment during repair and maintenance work, named “maintenance switches”, are designated hereafter as devices with:

- a) different classes;
- b) characteristics of each class;
- c) minimum test requirements;
- d) information to be marked on the equipment or made available by the manufacturer, for example in the catalogue.

NOTE 2 This document does not specify additional requirements that are necessary for the application of these switches, for example, in explosive atmospheres (e.g. ATEX in Europe).

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.

~~IEC 60050 – (all parts), International electrotechnical vocabulary. Available from: <<http://www.electropedia.org/>>~~

IEC 60050-441, *International Electrotechnical Vocabulary (IEV) – Part 441: Switchgear, controlgear and fuses* (available at www.electropedia.org)

IEC 60947-1:2007/2020, *Low-voltage switchgear and controlgear – Part 1: General rules*
~~Amendment 1:2010~~

IEC 60947-3:2008/2020, *Low-voltage switchgear and controlgear – Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units*
~~Amendment 1:2012~~

IEC 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*
IEC 62262:2002/AMD1:2021

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-441, IEC 60947-1, IEC 60947-3 and the following 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>

3.1

(mechanical) switch

mechanical switching device capable of making, carrying and breaking currents under normal circuit conditions which may include specified operating overload conditions and also carrying for a specified time currents under specified abnormal circuit conditions such as those of short-circuit

Note 1 to entry: A switch may be capable of making, but not breaking, short-circuit currents.

[SOURCE: IEC 60050-441:1984, 441-14-10]

3.2

disconnector

mechanical switching device which, in the open position, complies with the requirements specified for the isolating function

Note 1 to entry: A disconnector is capable of opening and closing a circuit when either a negligible current is broken or made, or when no significant change in the voltage across the terminals of each of the poles of the disconnector occurs. It is also capable of carrying currents under normal circuit conditions and carrying for a specified time currents under abnormal conditions such as those of short-circuit.

[SOURCE: IEC 60050-441:1984, 441-14-05, modified – reference has been made to the isolating function instead of the isolating distance.]

3.3

switch-disconnector

switch which, in the open position, satisfies the isolating requirements specified for a disconnector

[SOURCE: IEC 60050-441:1984, 441-14-12]

3.4

enclosed switch

switch with a dedicated enclosure, providing a specified degree of protection against certain external influences

4 Classification

Devices in accordance with this document are classified into two classes, class 0 and class 1. ~~Class 0 is the minimum requirement level, as class 1 is this required by harsh and rough/heavy duty conditions, for example for chemical industries.~~ Class 0 is the minimum requirement; class 1 is the class required when specified by the user, for example the chemical industry, for their more demanding environment.

Both are specified in Table 1.

5 Characteristics

IEC 60947-3:2008/2020, Clause 5, applies.

6 Product information

6.1 Nature of information

IEC 60947-1:2007/2020, 6.1, applies with the following additional dashed item under the list of characteristics:

- corresponding class of this document.

6.2 Markings

6.2.1 Front-marking

Each device shall be marked ~~in a durable and legible manner~~ with the following data.

The markings for a), b) and c) below shall be on the equipment itself or on a nameplate or nameplates attached to the device and shall be located at a place such that they are legible from the front after mounting the equipment in accordance with the manufacturer's instructions.

- a) Indication of the open and closed position. The open and closed position shall be indicated by the graphical symbols  (IEC 60417-5008:2002-10) and  (IEC 60417-5007:2002-10), respectively, see IEC 60947-1:2007/2020, 8.1.6.1.
- b) Symbol for marking in accordance with this document, see Figure 1.

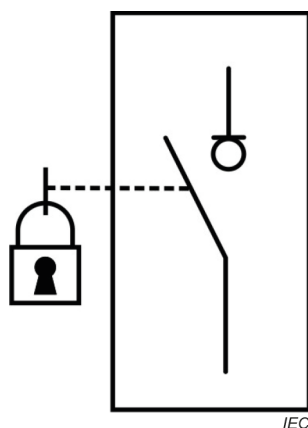


Figure 1 – Symbol for marking in accordance with this document

- c) ~~A corrosion-resistant label or plate marked with the text “maintenance switch” or translated in national language. The label or plate shall be colored according to national practice.~~

~~The height of the text shall be at least 5 mm. The text “maintenance switch” shall be marked in a durable and legible manner and the color of the text shall be different from the color of the label or plate.~~

~~NOTE The translations of the terms “maintenance switch” on the label into different languages can be for example “interrupteur de maintenance”, “Sicherheitschalter”, or equivalent translations in other languages.~~

A corrosion-resistant label or plate marked with the text in a minimum of 5 mm high characters, “maintenance switch”. National regulations can apply.

6.2.2 Additional marking

The following information shall be marked on the equipment, but it is not necessary that it be visible from the front when the device is mounted:

- a) manufacturer's name or trademark;
- b) type designation or serial number;
- c) rated operational current (or rated power) at the rated operational voltage;
- d) value (or range) of the rated frequency
- e) ~~number of this standard (IEC 62626-1) including class (see Clause 4)~~, if the manufacturer claims compliance with this document;
- f) class 0 or class 1 as applicable to the device.

7 ~~Normal service, mounting and transport conditions~~

~~Clause 6 of IEC 60947-3:2008 applies, as applicable.~~

Void

8 Constructional and performance requirements

8.1 Constructional requirements

8.1.1 General

~~To fulfill the safety disconnection requirements, it is necessary to have both a switch for start and stop and a separate maintenance switch. A maintenance switch shall not be equipped with means for remote control or automatic switching.~~

IEC 60947-3:2008/2020, 8.1, applies.

8.1.2 Locking

The locking means shall be designed in such a way that the device can be padlocked in the OFF position. The requirements for padlocking and opening of the enclosure are given in Table 1.

8.1.3 Environmental influences

The corrosion resistance of the device shall be tested. Requirements for corrosion resistance are given in Table 1.

8.1.4 Mechanical strength

The mechanical strength of the device shall be tested. Requirements for mechanical strength are given in Table 1.

8.1.5 Degree of protection

The device shall have a minimum degree of protection in accordance with Table 1.

8.1.6 Operation/actuation

Actuators mounted on removable covers or on panel or cabinet doors shall be so designed that, when the covers are replaced or the doors closed, the actuator will engage correctly with the associated mechanism.

8.2 Performance requirements

8.2.1 General

IEC 60947-3:2008/2020, 8.2, applies.

8.2.2 Switching capacity

The device shall have a utilization category in accordance with Table 1.

~~The device shall be designed for uninterrupted duty (see 4.3.4.2 of IEC 60947-1:2007).~~

9 Tests

9.1 General

IEC 60947-3:2008/2020, Clause 9, applies.

9.2 Type tests

The type tests listed in Table 1 shall be carried out in addition to the tests in accordance with IEC 60947-3:2008, Amendment 1:2012.

For each test a new sample may be used.

Table 1 – Requirements and tests for devices

Item	Requirements		Tests
	Class 0	Class 1	
Mechanical strength of the device ^a	IK06	IK09	IEC 62262:2002 and IEC 62262:2002/AMD1:2021, 4.1, 4.2, 4.3 ^b
Degree of protection of the device	IP54	IP65	IEC 60947-1:2007/2020, Annex C
Opening of the enclosure is possible only with tools	Yes	Yes	Visual inspection
Opening of the enclosure (with tools) in OFF position when padlocked	– ^e	No ^f	Visual inspection
Damp heat, salt mist and vibrations	Category A	Categories C and D	IEC 60947-1:2007/2020, Annex Q ^d
Utilization category	AC-23B	AC-3	IEC 60947-3
Padlocking capability, minimum value	3 ^c	3	IEC 60947-1:2007/2020, 8.1.7.3
^a For this test the device is in the OFF position and locked with only one padlock. ^b Device condition during and after the test: – the device is in the OFF position and locked; – closing of contacts is considered as a failure; – padlocking capability shall remain; – after the test the degree of protection shall not be less than IP54. ^c Use of accessories is allowed to gain minimum value. ^d For these special tests, IEC 60947-1:2007/2020, Annex Q, applies with the following additions: – where IEC 60947-1:2007/2020, Table Q.1, calls for verification of operational capability, this shall be made by carrying out five ON and OFF operations; – the vibration tests shall be done on the devices with the contacts in the open and closed position. During the test unintended opening or closing of the contacts is not allowed. To check the contacts, tests may be done under any current for voltage value; – for low temperature tests, devices shall not be energized during conditioning and testing, except for functional tests. By agreement of the manufacturer, the duration of the recovery periods may be reduced. ^e No requirement specified. ^f Device damaged after opening.			

Bibliography

IEC 60204-1, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

IEC 60364-5-51, *Electrical installations of buildings – Part 5-51: Selection and erection of electrical equipment – Common rules*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60947 (all parts), *Low-voltage switchgear and controlgear*

IEC 60947-5-1, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

ISO 13850, *Safety of machinery – Emergency stop function – Principles for design*

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**Low-voltage switchgear and controlgear enclosed equipment –
Part 1: Additional requirements for enclosed switch-disconnectors in
accordance with IEC 60947-3 – Isolation of electrical equipment during repair
and maintenance work in specific applications**

**Appareillage à basse tension sous enveloppe –
Partie 1: Exigences supplémentaires relatives aux interrupteurs-sectionneurs
sous enveloppe conformes à l'IEC 60947-3 – Isolation du matériel électrique lors
des travaux de réparation et de maintenance dans des applications spécifiques**

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INTRODUCTION

Enclosed switch-disconnectors covered by this part of IEC 62626 are intended for use in various applications, to provide isolation of electrical equipment, especially motor circuits, during repair, cleaning and maintenance works.

Such enclosed switch-disconnectors are sometimes known as “maintenance switches”, or “safety switches”. The name “safety switch” is also used for safety related position switches, inspection switches and switches for other applications, which are not covered by this document.

This part of IEC 62626 specifies additional requirements for enclosed switch-disconnectors in accordance with IEC 60947-3 to provide isolation of electrical equipment during repair and maintenance work.

Enclosed switch-disconnectors in accordance with this document are mounted close to the equipment being isolated.

NOTE 1 The term “safety switch” is not recognized in some countries as having the same meaning as given in this document.

NOTE 2 Switch-disconnectors do not necessarily meet the requirements for prevention of unexpected start, especially if there are energy sources other than electrical.

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LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ENCLOSED EQUIPMENT –

Part 1: Additional requirements for enclosed switch-disconnectors in accordance with IEC 60947-3 – Isolation of electrical equipment during repair and maintenance work in specific applications

1 Scope

This part of IEC 62626 applies to enclosed switches-disconnectors with rated voltages up to 1 000 V AC for repair and maintenance work or cleaning work in load circuits. Devices within the scope of this document are switch-disconnectors in accordance with IEC 60947-3 with specific additional requirements. Enclosed switch-disconnectors in this document are suitable for isolation in accordance with the IEC 60947 series and are not equipped with means for remote control or automatic switching to avoid unexpected or accidental start. These devices are not used for operational switching, for example quick start and stop, jogging.

NOTE 1 However, this kind of devices can provide the possibility to switch off electrical equipment (even in a critical situation or not).

Devices within the scope of this document provide isolation of electrical equipment, especially in motor circuits, during repair and maintenance or cleaning works.

Enclosed switch-disconnectors for various applications to provide isolation of electrical equipment during repair and maintenance work, named “maintenance switches”, are designated hereafter as devices with:

- a) different classes;
- b) characteristics of each class;
- c) minimum test requirements;
- d) information to be marked on the equipment or made available by the manufacturer, for example in the catalogue.

NOTE 2 This document does not specify additional requirements that are necessary for the application of these switches, for example, in explosive atmospheres (e.g. ATEX in Europe).

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.

IEC 60050-441, *International Electrotechnical Vocabulary (IEV) – Part 441: Switchgear, controlgear and fuses* ([available at www.electropedia.org](http://www.electropedia.org))

IEC 60947-1:2020, *Low-voltage switchgear and controlgear – Part 1: General rules*

IEC 60947-3:2020, *Low-voltage switchgear and controlgear – Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units*

IEC 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

IEC 62262:2002/AMD1:2021

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-441, IEC 60947-1, IEC 60947-3 and the following 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>

3.1

(mechanical) switch

mechanical switching device capable of making, carrying and breaking currents under normal circuit conditions which may include specified operating overload conditions and also carrying for a specified time currents under specified abnormal circuit conditions such as those of short-circuit

Note 1 to entry: A switch may be capable of making, but not breaking, short-circuit currents.

[SOURCE: IEC 60050-441:1984, 441-14-10]

3.2

disconnecter

mechanical switching device which, in the open position, complies with the requirements specified for the isolating function

Note 1 to entry: A disconnecter is capable of opening and closing a circuit when either a negligible current is broken or made, or when no significant change in the voltage across the terminals of each of the poles of the disconnecter occurs. It is also capable of carrying currents under normal circuit conditions and carrying for a specified time currents under abnormal conditions such as those of short-circuit.

[SOURCE: IEC 60050-441:1984, 441-14-05, modified – reference has been made to the isolating function instead of the isolating distance.]

3.3

switch-disconnector

switch which, in the open position, satisfies the isolating requirements specified for a disconnecter

[SOURCE: IEC 60050-441:1984, 441-14-12]

3.4

enclosed switch

switch with a dedicated enclosure, providing a specified degree of protection against certain external influences

4 Classification

Devices in accordance with this document are classified into two classes, class 0 and class 1. Class 0 is the minimum requirement; class 1 is the class required when specified by the user, for example the chemical industry, for their more demanding environment.

Both are specified in Table 1.

5 Characteristics

IEC 60947-3:2020, Clause 5, applies.

6 Product information

6.1 Nature of information

IEC 60947-1:2020, 6.1, applies with the following additional dashed item under the list of characteristics:

- corresponding class of this document.

6.2 Markings

6.2.1 Front-marking

Each device shall be marked with the following data.

The markings for a), b) and c) below shall be on the equipment itself or on a nameplate or nameplates attached to the device and shall be located at a place such that they are legible from the front after mounting the equipment in accordance with the manufacturer's instructions.

- a) Indication of the open and closed position. The open and closed position shall be indicated by the graphical symbols ○ (IEC 60417-5008:2002-10) and ▮ (IEC 60417-5007:2002-10), respectively, see IEC 60947-1:2020, 8.1.6.1.
- b) Symbol for marking in accordance with this document, see Figure 1.

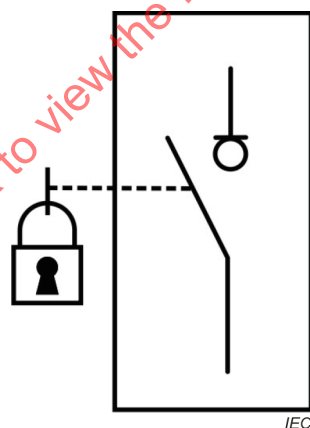


Figure 1 – Symbol for marking in accordance with this document

- c) A corrosion-resistant label or plate marked with the text in a minimum of 5 mm high characters, "maintenance switch". National regulations can apply.

6.2.2 Additional marking

The following information shall be marked on the equipment, but it is not necessary that it be visible from the front when the device is mounted:

- a) manufacturer's name or trademark;
- b) type designation or serial number;
- c) rated operational current (or rated power) at the rated operational voltage;
- d) value (or range) of the rated frequency
- e) IEC 62626-1, if the manufacturer claims compliance with this document;

f) class 0 or class 1 as applicable to the device.

7 Void

8 Constructional and performance requirements

8.1 Constructional requirements

8.1.1 General

A maintenance switch shall not be equipped with means for remote control or automatic switching.

IEC 60947-3:2020, 8.1, applies.

8.1.2 Locking

The locking means shall be designed in such a way that the device can be padlocked in the OFF position. The requirements for padlocking and opening of the enclosure are given in Table 1.

8.1.3 Environmental influences

The corrosion resistance of the device shall be tested. Requirements for corrosion resistance are given in Table 1.

8.1.4 Mechanical strength

The mechanical strength of the device shall be tested. Requirements for mechanical strength are given in Table 1.

8.1.5 Degree of protection

The device shall have a minimum degree of protection in accordance with Table 1.

8.1.6 Operation/actuation

Actuators mounted on removable covers or on panel or cabinet doors shall be so designed that, when the covers are replaced or the doors closed, the actuator will engage correctly with the associated mechanism.

8.2 Performance requirements

8.2.1 General

IEC 60947-3:2020, 8.2, applies.

8.2.2 Switching capacity

The device shall have a utilization category in accordance with Table 1.

9 Tests

9.1 General

IEC 60947-3:2020, Clause 9, applies.

9.2 Type tests

The type tests listed in Table 1 shall be carried out in addition to the tests in accordance with IEC 60947-3.

For each test a new sample may be used.

Table 1 – Requirements and tests for devices

Item	Requirements		Tests
	Class 0	Class 1	
Mechanical strength of the device ^a	IK06	IK09	IEC 62262:2002 and IEC 62262:2002/AMD1:2021, 4.1, 4.2, 4.3 ^b
Degree of protection of the device	IP54	IP65	IEC 60947-1:2020, Annex C
Opening of the enclosure is possible only with tools	Yes	Yes	Visual inspection
Opening of the enclosure (with tools) in OFF position when padlocked	– ^e	No ^f	Visual inspection
Damp heat, salt mist and vibrations	Category A	Categories C and D	IEC 60947-1:2020, Annex Q ^d
Utilization category	AC-23B	AC-3	IEC 60947-3
Padlocking capability, minimum value	3 ^c	3	IEC 60947-1:2020, 8.1.7.3
^a For this test the device is in the OFF position and locked with only one padlock. ^b Device condition during and after the test: – the device is in the OFF position and locked; – closing of contacts is considered as a failure; – padlocking capability shall remain; – after the test the degree of protection shall not be less than IP54. ^c Use of accessories is allowed to gain minimum value. ^d For these special tests, IEC 60947-1:2020, Annex Q, applies with the following additions: – where IEC 60947-1:2020, Table Q.1, calls for verification of operational capability, this shall be made by carrying out five ON and OFF operations; – the vibration tests shall be done on the devices with the contacts in the open and closed position. During the test unintended opening or closing of the contacts is not allowed. To check the contacts, tests may be done under any current or voltage value; – for low temperature tests, devices shall not be energized during conditioning and testing, except for functional tests. By agreement of the manufacturer, the duration of the recovery periods may be reduced. ^e No requirement specified. ^f Device damaged after opening.			

Bibliography

IEC 60204-1, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

IEC 60364-5-51, *Electrical installations of buildings – Part 5-51: Selection and erection of electrical equipment – Common rules*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60947 (all parts), *Low-voltage switchgear and controlgear*

IEC 60947-5-1, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

ISO 13850, *Safety of machinery – Emergency stop function – Principles for design*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

APPAREILLAGE À BASSE TENSION SOUS ENVELOPPE –

Partie 1: Exigences supplémentaires relatives aux interrupteurs sectionneurs sous enveloppe conformes à l'IEC 60947-3 – Isolation du matériel électrique lors des travaux de réparation et de maintenance dans des applications spécifiques

AVANT-PROPOS

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L'IEC 62626-1 a été établie par le sous-comité SC121A: Appareillage à basse tension, du comité d'études 121 de l'IEC: Appareillages et ensembles d'appareillages basse tension. Il s'agit d'une Norme internationale.

Cette deuxième édition annule et remplace la première édition parue en 2014. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) mise à jour du présent document fondée sur l'IEC 60947-1:2020.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
121A/569/FDIS	121A/581/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Le présent document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Une liste de toutes les parties de la série IEC 62626, publiées sous le titre général *Appareillage à basse tension sous enveloppe*, se trouve sur le site web de l'IEC.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. À cette date, le document sera

- reconduit,
- supprimé, ou
- révisé.

INTRODUCTION

Les interrupteurs-sectionneurs sous enveloppe couverts par la présente partie de l'IEC 62626 sont destinés à être utilisés dans plusieurs applications, permettant l'isolation d'un matériel électrique, notamment des circuits de moteurs, durant les travaux de réparation, de nettoyage et de maintenance.

Ces interrupteurs-sectionneurs sous enveloppe sont parfois désignés "interrupteurs de maintenance" ou "interrupteurs de sécurité". Le terme "interrupteur de sécurité" est également employé pour les interrupteurs de position relatifs à la sécurité, les interrupteurs d'inspection et des interrupteurs pour d'autres applications qui ne relèvent pas du présent document.

La présente partie de l'IEC 62626 spécifie les exigences supplémentaires relatives aux interrupteurs-sectionneurs conformes à l'IEC 60947-3, en vue d'isoler le matériel électrique lors des travaux de réparation et de maintenance.

Les interrupteurs-sectionneurs sous enveloppe conformes au présent document sont montés à proximité du matériel qui est isolé.

NOTE 1 Le terme "interrupteur de sécurité" n'est pas reconnu dans certains pays comme ayant le même sens que celui donné dans le présent document.

NOTE 2 Les interrupteurs-sectionneurs ne répondent pas nécessairement aux exigences en matière de prévention de démarrage intempestif, en particulier en présence de sources d'énergie autres qu'électriques.

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APPAREILLAGE À BASSE TENSION SOUS ENVELOPPE –

Partie 1: Exigences supplémentaires relatives aux interrupteurs sectionneurs sous enveloppe conformes à l'IEC 60947-3 – Isolation du matériel électrique lors des travaux de réparation et de maintenance dans des applications spécifiques

1 Domaine d'application

La présente partie de l'IEC 62626 s'applique aux interrupteurs-sectionneurs sous enveloppe ayant une tension assignée inférieure ou égale à 1 000 V en courant alternatif, pour les travaux de réparation et de maintenance ou pour les opérations de nettoyage de circuits de charge. Les appareils relevant du domaine d'application du présent document sont les interrupteurs-sectionneurs conformes à l'IEC 60947-3 avec des exigences supplémentaires. Les interrupteurs-sectionneurs sous enveloppe conformes au présent document conviennent à une isolation conforme à la série IEC 60947 et ne sont pas équipés de dispositif de commande à distance ou de commutation automatique, en vue d'éviter des démarrages intempestifs ou accidentels. Ces appareils ne sont pas utilisés pour une commande fonctionnelle, par exemple un démarrage et un arrêt rapides ou un fonctionnement par à-coups.

NOTE 1 Cependant, ce type d'appareils permet de mettre hors tension le matériel électrique (en situation critique ou non).

Les appareils qui relèvent du domaine d'application du présent document permettent l'isolation du matériel électrique, notamment des circuits de moteurs, durant les travaux de réparation et de maintenance ou de nettoyage.

Les interrupteurs-sectionneurs sous enveloppe destinés à plusieurs applications, apportant une isolation du matériel électrique durant les travaux de réparation et de maintenance, nommés "interrupteurs de maintenance", sont désignés ci-après comme étant des appareils:

- a) de différentes classes;
- b) avec les caractéristiques de chaque classe;
- c) remplissant les exigences minimales relatives aux essais;
- d) accompagnés d'informations devant figurer par un marquage sur le matériel ou mises à disposition par le fabricant, par exemple dans un catalogue.

NOTE 2 Le présent document ne spécifie pas d'exigences supplémentaires nécessaires à l'application de ces interrupteurs, par exemple en cas d'atmosphères explosives (ex. ATEX en Europe).

2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60050-441, *Vocabulaire Électrotechnique International (IEV) – Partie 441: Appareillage et fusibles* (disponible sous www.electropedia.org)

IEC 60947-1:2020, *Appareillage à basse tension – Partie 1: Règles générales*