

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**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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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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**

## FOREWORD

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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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://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](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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- withdrawn, or
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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

##### **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; 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.

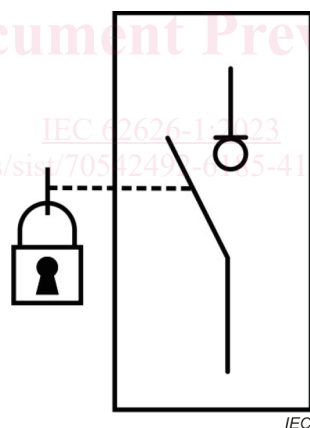
### 6.2 Markings

#### 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;