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Standards

Irish Standard  
I.S. EN IEC 60947-5-8:2021

# Low-voltage switchgear and controlgear - Part 5-8: Control circuit devices and switching elements - Three-position enabling switches

**I.S. EN IEC 60947-5-8:2021**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN IEC 60947-5-8:2021 is the adopted Irish version of the European Document EN IEC 60947-5-8:2021, Low-voltage switchgear and controlgear - Part 5-8: Control circuit devices and switching elements - Three-position enabling switches

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**EN IEC 60947-5-8**

April 2021

ICS 29.130.20

Supersedes EN 60947-5-8:2006 and all of its  
amendments and corrigenda (if any)

English Version

**Low-voltage switchgear and controlgear - Part 5-8: Control  
circuit devices and switching elements - Three-position enabling  
switches  
(IEC 60947-5-8:2020)**

Appareillage à basse tension - Partie 5-8: Appareils et  
éléments de commutation pour circuits de commande -  
Interrupteurs de commande de validation à trois positions  
(IEC 60947-5-8:2020)

Niederspannungsschaltgeräte - Teil 5-8: Steuergeräte und  
Schaltelemente - Drei-Stellungs-Zustimmungsschalter  
(IEC 60947-5-8:2020)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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**EN IEC 60947-5-8:2021 (E)****European foreword**

The text of document 121A/358/FDIS, future edition 2 of IEC 60947-5-8, prepared by SC 121A "Low-voltage switchgear and controlgear" of IEC/TC 121 "Switchgear and controlgear and their assemblies for low voltage" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60947-5-8:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-10-02 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-04-02 document have to be withdrawn

This document supersedes EN 60947-5-8:2006 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

**Endorsement notice**

The text of the International Standard IEC 60947-5-8:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60204-1:2016	NOTE	Harmonized as EN 60204-1:2018 (modified)
IEC 60695-2-10:2013	NOTE	Harmonized as EN 60695-2-10:2013 (not modified)
IEC 60695-2-11:2014	NOTE	Harmonized as EN 60695-2-11:2014 (not modified)
IEC 60695-2-12:2010	NOTE	Harmonized as EN 60695-2-12:2010 (not modified)
IEC 60695-2-12:2010/A1:2014	NOTE	Harmonized as EN 60695-2-12:2010/A1:2014 (not modified)
IEC 60947-5-5:1997	NOTE	Harmonized as EN 60947-5-5:1997 (not modified)
IEC 60947-5-5:1997/A1:2005	NOTE	Harmonized as EN 60947-5-5:1997/A1:2005 (not modified)
IEC 60947-5-5:1997/A2:2016	NOTE	Harmonized as EN 60947-5-5:1997/A2:2017 (not modified)

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-1	2007	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	2007
IEC 60068-2-2	2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-27	2008	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC 60947-1	2020	Low-voltage switchgear and controlgear - Part 1: General rules	EN IEC 60947-1	2021
IEC 60947-5-1	2016	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1	2017

## Annex ZZ (informative)

### Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European standard has been prepared under a Commission's standardisation request relating to harmonised standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

**Table ZZ.1 — Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]**

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks/note
1 a)	6	
1 b)	4, 5, 6	
1 c)	4, 5, 6	Also refer to 2 a) to 2 d) and 3 a) to 3 c) in this table
2 a)	4, 5, 6.1, 6.3, 7.2, 8.1, 9.2, 9.3	
2 b)	6.1, 6.3, 8.1, 8.2, 9.1, 9.2, 9.3	This standard does not deal with any specific requirements on acoustic noise and optical radiation.
2 c)	4, 5, 6.2, 6.3, 8.1, 8.2, 9.2, 9.3	
2 d)	4, 5, 6.2, 6.3, 7, 8.1, 8.2, 9.2, 9.3	Special environmental conditions differing from those given in 7.1 are not covered by this standard.
3 a)	4, 5, 6.2, 6.3, 7, 9.2, 9.3	
3 b)	4, 5, 9.1	Special environmental conditions differing from those given in 7.1 are not covered by this standard.
3 c)	4, 5, 6.2, 7, 8.2, 9.3	

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**IEC 60947-5-8**

Edition 2.0 2020-08

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**



**Low-voltage switchgear and controlgear –  
Part 5-8: Control circuit devices and switching elements – Three-position  
enabling switches**

**Appareillage à basse tension –  
Partie 5-8: Appareils et éléments de commutation pour circuits de commande –  
Interrupteurs de commande de validation à trois positions**



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**IEC 60947-5-8**

Edition 2.0 2020-08

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



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**Low-voltage switchgear and controlgear –  
Part 5-8: Control circuit devices and switching elements – Three-position  
enabling switches**

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Interrupteurs de commande de validation à trois positions**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### **LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –**

#### **Part 5-8: Control circuit devices and switching elements – Three-position enabling switches**

#### **FOREWORD**

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International Standard IEC 60947-5-8 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 second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

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

- a) due to the increasing range of useful applications of three-position enabling switches, note of scope, operational characteristics and tests are reviewed;
- b) figures for example of devices incorporating enabling switch are added in Annex A;
- c) new Annex B for procedure to determine reliability data for the switch used in functional safety applications is added.

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

FDIS	Report on voting
121A/358/FDIS	121A/369/RVD

Full information on the voting for the approval of this document can be found in the report on voting indicated in the above table.

This document should be used in conjunction with IEC 60947-1:2020 and IEC 60947-5-1:2016.

The provisions of the general rules, IEC 60947-1, are applicable to this standard, where specifically called for. General rules clauses and subclauses thus applicable, as well as tables, figures and annexes are identified by a reference to IEC 60947-1, for example 1.2.3 or Annex A of IEC 60947-1:2020.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60947 series, under the general title *Low-voltage switchgear and controlgear*, 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 "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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## LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

### Part 5-8: Control circuit devices and switching elements – Three-position enabling switches

#### 1 Scope

This part of IEC 60947 series specifies requirements for three-position enabling switches.

These switches are used as components of enabling devices to provide signals that,

- a) when activated, allow machine operation to be initiated by a separate start control, and
- b) when de-activated,
  - initiate a stop function, and
  - prevent initiation of machine operation.

NOTE 1 The enabling control function is described in 9.2.3.9 of IEC 60204-1:2016 but the application of three-position enabling switches is not limited to a component of the enabling device described in IEC 60204-1.

NOTE 2 This document does not deal with enabling devices.

These switches are intended to be connected to circuits which rated voltage does not exceed 250 V AC 50 Hz/60 Hz or 300 V DC.

EXAMPLE Devices incorporating three-position enabling switches are:

- push-button enabling devices;
- grip actuated enabling devices;
- foot actuated enabling devices.

See Annex A for more typical examples.

This document does not apply to:

- three-position enabling switches for non-electrical control circuits, for example hydraulic, pneumatic;
- enabling switches without three-position mechanism;
- emergency stop devices (see IEC 60947-5-5).

#### 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 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

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